

very much on the opposite sides of a hill or valley. In describing the results of such observations, observers should omit references to their theories as to the nature and origin of an earthquake shock unless, indeed, they collect observations especially adapted to test definite theoretical hypotheses.

Numerous reports have been received of an earthquake shock on November 27, which was felt between 11.42 a. m. and noon of that date, throughout northern New England and eastern Canada. A special description of this earthquake will be found in the November Bulletin of the New England Weather Service.

In connection with this earthquake, the Editor would remark that although the center of this disturbed area was probably not far from Quebec, yet it is by no means necessary to conclude that there is a region extending from 50 to 100 miles northeast of Quebec in which an almost extinct volcano is slowly expiring. An earthquake has, in fact, no necessary connection with a volcano; volcanic eruptions produce slight earth tremors in their neighborhood, but earth tremors and severer earthquakes occur without depending upon volcanic eruptions. It is more plausible that the dislocation of strata attending an earthquake may produce vents through which volcanic eruptions subsequently take place. We must consider the surface of the earth to a depth of at least 50 miles as being in a state of strain. This strain is produced by numerous causes, among which may be mentioned, first, the contraction of the solid crust due to cooling; second, the expansion due to the slow crystallization of sedimentary strata as they are converted into crystalline rock; third, the pressures involved in the evolution of steam and other gases; fourth, the strain produced by the upward pressure of liquid lava forced up through cracks in the lowest strata and seeking to break through the upper strata; fifth, the strains produced by the weight of the ocean on its bed, or of mountains on their bases; finally, the enormous strains produced by the differential attractions of the sun and moon on various portions of the revolving earth and the strains due to the centrifugal force of that revolution.

Of all these causes, the centrifugal and tidal forces are, at the present time, probably most effective in producing the gradual uplifting of continents and mountain chains. A large majority of the earthquake tremors and shocks are due to the actual giving way of the geological strata under these immense strains; sometimes a set of inclined strata slide over each other a few inches, at other times a compressed stratum cracks and one portion is shoved up higher than the other by a few inches, forming the "faults" that one sees everywhere in the rocks. In this way, apparently, the great geological anticlines and synclines were formed; the range of the Rocky Mountains and the Andes represents a general rise, step by step, during many ages, and which is even now going on, while the other western portion of the stratum has not been elevated and underlies the Pacific Ocean. If lava and volcanoes burst up along the line of such a cleft in the rocks we must attribute the possibility of volcanoes to the occurrence of earthquakes and not vice versa. There are probably very few cases in which volcanoes should be spoken of as the ultimate cause of earthquakes.

There are numerous regions in the United States within which earthquake tremors are very frequent, and such frequency may plausibly be considered as indicating one of two alternatives, viz., either the strains are particularly frequent and severe in those regions, or else the geological strata thereabouts are strained in such a manner as to render it particularly easy for them to give way suddenly and become slightly dislocated so as to form new cracks and "faults." When these earthquake areas occur in hilly or mountainous countries, we conclude that the mountains are but the present results of a similar set of dislocations that have been going on through several geological ages; when an earthquake area is confined mainly to a river valley we connect it with the arrangement of strata that made that valley a possibility. But without adopting any hypothesis as to the origin of special earthquake

regions we must, for the present, and as observers merely, be content to collect the observations for the use of the geologists.

#### RELATIVE INTENSITY OF WEST INDIAN STORMS.

By Prof. H. A. HAZEN.

In the following table the column on the left gives the year and those on the right give for each year and month two horizontal rows of figures, D and I; in the upper horizontal row (D) is given the date of the beginning of the storm, as far as reports are at hand, and in the lower row (I) is a figure indicating relative intensity.

This table has been prepared by Prof. Hazen in connection with his study of the storms of the western portion of the Gulf of Mexico; it comprises all the storms of which mention has been made in the MONTHLY WEATHER REVIEW or in the "Monthly Summary of International Observations," as originating east of the 100th meridian and south of the 30th parallel.

The date of the origin is taken as the day when the first increasing, or violent winds, are noted. The scale of intensity is relative and depends in part upon the violence of the wind and in part on the extent of the storm.

*Storms in the neighborhood of the West Indies during August, September, and October, from 1874 to 1893.*

	August.			September.			October.		
	D	I	Precip'n.	D	I	Precip'n.	D	I	Precip'n.
1874, D	.	.	.	2	8	25	.	.	.
I	.	.	.	3	1	3	.	.	.
1875, D	1	6	13	9	24	.	13	.	.
I	1	1	1	3	1	.	2	.	.
1876, D	.	.	.	12	.	.	19	.	.
I	.	.	.	2	.	.	3	.	.
1877, D	2	.	.	14	17	21	.	16	24
I	1	.	.	3	2	3	1	1	1
1878, D	12	24	.	1	12	24	29	9	13
I	2	1	.	3	1	2	1	2	3
1879, D	13	16	20	30	8	12	.	3	10
I	1	3	1	2	1	1	2	2	2
1880, D	5	12	15	24	7	.	.	1	5
I	2	2	2	3	1	.	1	2	1
1881, D	1	15	22	27	9	14	.	7	20
I	1	1	3	2	1	1	2	2	27
1882, D	29	.	.	.	2	22	.	6	.
I	1	.	.	.	3	1	.	3	.
1883, D	15	23	.	.	4	.	.	22	.
I	3	2	.	.	3	.	1	2	.
1884, D	.	.	.	.	3	10	.	7	11
I	.	.	.	.	2	2	1	2	21
1885, D	8	23	30	.	15	18	24	26	.
I	2	2	1	.	1	1	2	2	.
1886, D	6	13	15	19	22	24	.	1	7
I	1	2	3	3	2	1	2	3	22
1887, D	5	15	19	30	1	11	15	24	.
I	1	3	3	2	1	2	1	1	16
1888, D	16	31	.	.	7	24	.	10	24
I	2	3	.	.	1	1	1	1	22
1889, D	8	20	25	.	1	4	13	.	4
I	1	1	1	.	3	1	3	2	.
1890, D	11	23	27	.	4	.	.	2	22
I	1	3	3	.	1	1	1	1	.
1891, D	18	26	.	.	6	11	14	18	25
I	3	1	.	.	2	1	2	1	13
1892, D	16	.	.	.	11	.	.	1	13
I	3	.	.	.	2	.	.	2	22
1893, D	15	20	22	29	1	5	.	1	21
I	2	2	3	1	2	.	3	1	.

#### METEOROLOGICAL TABLES.

*Meteorological record of voluntary and other co-operating observers, November, 1893.*

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean.			Max.	Min.	Mean.	
Alabama.	o	o	o	Ins.	Alabama—Cont'd.	o	o	o	Ins.
Alco.	79	27	55.7	.	Geneva †.	83	27	55.8	3-10
Bermuda †.	76	26	53.0	4-15	Starlington †.	78	28	54.7	2.81
Birmingham †.	784	33 <sup>d</sup>	50-20	2-13	Devantevant †.	.	.	.	1.06
Brewton *†.	85	25	55.5	4-87	Talladega a †.	.	.	.	2.15
Carrollton *†.	74	22	51.7	2-90	Talladega b †.	77	23	52.5	1.90
Chepultepec.	77 <sup>d</sup>	15 <sup>d</sup>	48.7 <sup>d</sup>	2.03	Livingston †.	79	22	53.4	2.98
Citronelle †.	77	32	57.4	4-04	Lynn †.	.	.	.	2.60
Claiborne Landing †.	.	.	.	2.88	Maple Grove.	86	16	52.8	2.73
Cordova †.	.	.	.	3-59	Marion †.	76	26	55.5	1.91
Decatur b †.	76	15	47.6	1-39	Mount Willing †.	77	28	56.6	3.15
Elsie *†.	70	30	55.4	3-28	Newbern †.	77	26	53.2	3.37
Eufaula a †.	84	29	58.8	3-02	Newton †.	79	16	49.4	2.10
Eufaula c †.	.	.	.	2-32	Oxana †.	76	24	56.0	2.87
Evergreen †.	80	28	55.8	4-55	Opelika †.	76	22	54.6	1.08
Florence a †.	.	.	.	2-31	Oxana †.	75	22	52.1	1.37
Florence b †.	77	20	49.7	1-95	Pine Apple †.	78	22	53.8	3.26
Fort Deposit †.	79	26	54.2	—	Pushmataha †.	76	29	55.0	4-50
Gadsden †.	76	21	50.9	1-70	Rock Mills.	.	.	.	2.41

*Meteorological record of voluntary observers, &c.—Continued.*

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean.			Max.	Min.	Mean.	
Alabama—Cont'd.	o	o	o	Ins.	Arizona.	o	o	o	Ins.
Selma a †.	83	27	55.8	3-02	Antelope Valley †.	.	.	.	1.71
Starlington †.	78	28	54.7	2.81	Arizona * †.	80	36	53.1	0.50
Devantevant †.	.	.	.	1.06	Ariz. Canal Co. Dam.	87	42	64.4	0.46
Talladega a †.	.	.	.	2.15	Benson * †.	80	30	54.0	0.00
Talladega b †.	77	23	52.5	1.90	Buckeye †.	89	33	59.3	1.60
Tallassee Falls †.	.	.	.	3.06	Calabasas †.	77	28	49.2	0.35
Thomaville †.	80	24	55.2	5-14	Casa Grande * †.	89	35	60.3	0.00
Tuscaloosa †.	.	.	.	2.88	Crittenden * †.	83	19	49.9	0.49
Tuscumbia b †.	75	20	49.5	2.35	Dragoon Summit †.	78	35	58.4	0.00
Union Springs a †.	80	23	55.2	2.77	Dudleyville †.	81	32	53.5	1.10
Union Springs b †.	76	25	54.5	2.71	Farleys Camp.	71	43	57.8	1.50
Unioontown †.	78	28	56.7	3-10	Flagstaff †.	70	11	41.4	1.70
Valley Head †.	76	16	48.8	1.95	Florence †.	84	37	56.6	0.43
Warrior †.	.	.	.	2.55	Fort Apache.	70	20	43.6	0.28
Wilsonville †.	.	.	.	2.10	Fort Bowie †.	77	29	52.0	0.07
Killisnoo †.	47	1	29.4	4-10	Fort Grant.	77	24	51.4	0.40
Metlakatla †.	49	8	32.0	9.69	Fort Huachuca.	78	24	49.9	0.37
Gila Bend b * †.	.	.	.	35	Fort Mohave.	84 <sup>d</sup>	30 <sup>d</sup>	56.7 <sup>d</sup>	0.28

*Meteorological record of voluntary observers, &c.—Continued.*

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
Arizona—Cont'd.	0	0	0	Ins.	California—Cont'd.	0	0	0	Ins.
Holbrook †	74	16	43.3	0.30	Cisco *8	58	14	36.3	....
Maricopa *8	90	35	59.2	0.30	Citrus *8	72	....	39.4	0.05
Mount Huachuca †	75	24	48.7	0.25	Claremont †	79	31	53.6	1.31
Natural Bridge †	.....	.....	1.40	.....	Cloverdale *8	75	36	57.7	6.64
Oracle †	75	29	50.1	0.78	Colegrove	.....	.....	.....	0.11
Oro	.....	.....	.....	T.	Colfax *8	82	32	50.4	9.32
Pantano *8	83	33	56.9	....	Colton *8	85	31	57.7	0.22
Parker	77	19	49.8	1.00	Colusa †	80	28	53.4	1.12
Payson *1	68	24	41.9	1.87	Corning *8	76	37	50.5	2.60
Peoria †	78	38	56.2	0.08	Crescent City	.....	.....	.....	13.10
Phoenix *†	84	30	54.4	0.60	Crescent City L. H.	.....	.....	.....	13.05
Red Rock *†	82	36	59.8	0.50	Crofton *8	76	38	55.7	0.66
Reymert †	78	34	54.0	1.00	Davisville a *8	75	35	53.7	2.97
Rye †	.....	.....	.....	T.	Davisville b *8	83	32	57.8	2.28
St. Helens R. H. †	80*	30	52.2	0.39	Delano *8	74	30	50.5	0.30
San Carlos	86	23	50.0	0.34	Delta *8	70	25	50.2	8.05
San Simon *8	91	32	57.0	0.00	Dinuba *8	73	33	50.7	0.27
Show Low	.....	.....	.....	T.	Downey *8	92	40	60.3	0.47
Signal †	79	33	53.8	1.52	Dry Creek *†	.....	.....	.....	48.0
Tevison	.....	.....	.....	.....	Drytown	78	32	52.5	4.07
Texas Hill *8	85	39	59.3	0.00	Duarte	87	40	59.8	0.37
Tucson a †	84	33	55.1	0.40	Dunnigan *8	79	32	51.4	1.00
Tucson b *8	85	32	58.4	0.36	Dunsmuir *8	66	22	44.0	11.35
Walnut Ranch *†	72	24	45.6	T.	East Brother L. H.	.....	.....	.....	0.00
Whipple Barracks	70	12	40.4	1.16	Edgewood *8	53	17	41.0	2.65
Wilcox *8	73	24	48.9	0.00	Edmonton *1	65	20	40.0	9.46
Yuma *8	98	40	70.4	0.30	Eldorado *8	76	37	53.6	4.58
Arkansas	.....	.....	.....	Elmira *8	77	30	53.3	3.02	
Arkadelphia †	.....	.....	5.38	El Verano *8	74	31	53.4	6.87	
Arkansas City †	.....	.....	5.00	Emigrant Gap *8	59	21	40.0	5.95	
Ashdown †	81	20	49.7	4.79	Esparto *8	80	30	53.7	2.05
Bee Branch †	75	20	49.9	3.10	Evergreen	.....	.....	.....	1.05
Blanchard Springs †	81	23	51.6	7.13	Exeter *8	78	30	53.8	0.16
Brinkley †	78	24	47.6	4.66	Fall Brook *1	85	37	52.8	1.46
Camden a †	82	26	47.5	6.65	Farmington *8	74	30	53.4	2.19
Conway *1	74	24	46.9	2.37	Felton *8	86	28	59.0	4.15
Corning †	72	16	44.8	2.55	Fernando *8	78	35	55.6	0.05
Dallas *†	70	25	47.2	4.22	Florence *8	83	40	60.5	0.00
Dardanelle †	.....	.....	3.31	Florin *8	73	30	50.2	2.03	
Fayetteville †	73	14	45.6	2.91	Folsom City a *8	75	35	53.6	4.22
Forrest †	81	24	53.0	3.31	Folsom City b *1	72	35	53.9	3.91
Fulton †	.....	.....	4.20	Fort Ross	.....	.....	.....	1.07	
Gaines Landing †	.....	.....	5.81	French Corral	77	32	52.8	6.05	
Hamburg	82	21	52.0	6.50	Fresno *8	69	30	57.0	0.13
Helena a †	.....	.....	4.98	Fruto *8	75	38	56.7	2.80	
Hot Springs	76	20	50.7	4.71	Galt *8	73	33	54.5	3.52
Keesee Ferry †	79	19	51.0	4.48	Georgetown †	70	29	48.3	10.92
Kirby †	77	23	51.0	4.90	Gilroy *8	76	30	53.9	0.72
Lonoke *1	76	24	51.1	4.50	Glendora	.....	.....	.....	0.00
Malvern †	75	18	47.9	5.10	Glen Ellen *8	70	29	53.2	0.20
Mount Nebo †	68	19	49.4	3.14	Gormans Station	.....	.....	.....	7.50
New Gascony *1	78d	22	49.2	5.18	Goshen *8	72	27	55.2	1.00
Newport a †	.....	.....	3.24	Grass Valley a	.....	.....	8.77	0.00	
Newport b †	78	22	49.4	3.79	Gridley *1	72	22	46.9	4.41
Newport c †	76	20	48.2	3.21	Haywards *8	70	36	52.0	3.83
Osceola †	82	21	48.8	4.77	Healdsburg *1	68	30	50.0	5.50
Ozark †	76	22	49.2	2.99	Hendersons R. Ch.	.....	.....	.....	0.00
Pine Bluff	80	25	52.6	5.18	Hollister *8	81	32	54.2	0.77
Prescott †	78	30	52.8	4.86	Hornbrook *8	64	22	42.1	4.17
Rison †	84	19	53.6	5.73	Humboldt L. H.	.....	9.37	.....	0.00
Russellville †	75	22	48.8	3.86	Huron *8	75	49	62.0	0.05
Searcy †	78	19	45.0	6.14	Hyde Ranch	.....	1.85	.....	0.00
Stuttgart †	80	20	49.5	4.48	Hydesville †	68	25	50.3	7.22
Texarkana †	80	25	53.0	2.24	Independence †	72	22	48.2	0.10
Washington b †	78	23	50.0	5.33	Indio *8	90	38	60.8	0.14
Wiggs	.....	.....	4.80	Ione *8	70	26	53.7	3.14	
Winslow *†	63	10	41.4	2.60	Iowa Hill †	78	35	51.1	8.30
California	.....	.....	.....	Jackson	64	32	48.3	5.28	
Agnew 1	80 <sup>1</sup>	36 <sup>1</sup>	56.1 <sup>m</sup>	0.90	Jolon	.....	0.15	.....	0.00
Alaheim *8	82	45	58.8	0.30	Julian †	71	19	47.1	3.25
Anderson *1	77	20	49.8	6.38	Keeler *8	72	27	49.8	0.03
Antioch *8	73	37	54.5	2.18	Keene *8	68	24	46.7	0.18
Apots *8	73	35	54.5	3.16	Kelseyville	73	28	50.6	4.68
Arcata †	63	29	49.4	1.90	Kennedy Gold Mine *1	70	33	50.3	5.98
Arlington Heights	83	32	55.6	0.28	King City #8	60	22	52.1	0.18
Athlone *8	80	34	57.9	0.45	Kingsburg *8	78	30	53.6	0.15
Auburn *8	78	39	57.0	5.34	Knights Landing *8	78	32	50.5	1.77
Bakersfield a *8	79	35	57.7	0.20	Kono Tayee	72	40	53.2	3.76
Bakersfield b †	78	33	56.6	0.33	Lagrange *8	72	34	55.0	1.70
Ballast Point L. H.	.....	.....	0.85	Lathrop *8	74	31	54.6	1.36	
Barstow †	73	28	52.4	T.	Laurel *8	82	34	53.6	3.27
Bear Valley Dam *1	55	14	35.8	0.02	Lemoore *8	72	36	51.4	0.00
Beaumont *8	88	30	56.6	0.00	Lick Observatory	67	26	46.9	4.01
Belmont *8	80	45	53.3	.....	Line Point L. H.	70	30	52.8	0.00
Berendo *8	73	34	53.3	5.22	Livermore *8	79	30	54.3	1.59
Berkeley	70	42	54.3	5.22	Livingston *8	78	40	58.3	0.75
Bishop Creek *8	72	28	48.8	0.10	Lodi	70	30	52.8	3.11
Boca *8	75	10	40.0	2.42	Long Beach *8	80	35	54.6	1.59
Borden *8	78	28	52.9	0.00	Los Angeles *8	80	34	55.0	0.13
Boulder Creek *8	74	24	50.3	3.60	Los Banos *8	68	26	51.9	0.30
Brentwood *8	71	32	51.4	2.08	Los Gatos a *8	80	40	54.7	1.03
Brighton *6	80	40	58.8	2.96	Los Gatos b	74	34	54.0	1.02
Byron *8	79	30	52.5	1.50	Mammoth Tank *8	65	39	60.1	0.35
Cajiente *8	70	40	53.3	2.20	Mare Island L. H.	.....	2.03	.....	0.00
Calistoga *8	78	33	56.7	6.93	Mariposa *1	74	28	49.2	2.24
Campo Seco	.....	.....	3.38	Marysville *8	70	30	51.9	2.82	
C. Mendocino L. H.	.....	.....	1.06	Menlo Park *8	72	33	54.4	1.51	
Capitol *8	78	34	56.4	0.00	Merced *8	71	30	56.0	0.65
Castroville *8	78	32	53.3	1.09	Middletown *†	80	29	51.9	3.06
Centerville *1	86	27	57.1	2.44	Mills College	.....	6.86	.....	0.00
Chico *8	83	32	52.8	3.53	Milton (near) *8	70	35	54.8	1.94
Chino *8	81	36	53.0	0.61	Saticoy *8	70	35	54.1	1.06

*Meteorological record of voluntary observers, &c.—Continued.*

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean			Max.	Min.	Mean	
California—Cont'd.	0	0	0	Ins.	California—Cont'd.	0	0	0	Ins.	California—Cont'd.	0	0	0	Ins.
Mohave *8	58	14	36.3	....	Mokelumne Hill *8	72	30	49.9	0.15	Shasta Springs †	65	21	43.8	10.03
Citrus *8	72	31	39.4	0.05	Monsen *8	73	30	51.4	0.04	Shingle Springs *8	67	32	49.4	4.98
Claremont †	79	31	53.6	1.31	Montague *8	71	20	46.3	0.22	Sierra Madre *8	59	21	41.3	4.25
Cloverdale *8	75	36	57.7	0.64	Monterey *8	76	23	54.8	0.00	Soleedad *8	80	30	53.9	0.17
Colegrove	.....	.....	.....	.....	Montgomery *8	70	23	54.7	0.00	Sonoma *8	74	32	49.8	5.30
Colton *8	82	32	50.4	9.32	Monterey (Hotel del Monte) *8	74	38	54.7	....	South Vallejo *8	68	27	53.8	2.19
Colusa †	80	28	53.4	1.12	Mountain Glenwood *8	72	40	57.0	2.80	Spadra *8	83	30	56.4	0.00
Corning *8	76	37	50.5	2.60	Napa City a *8	78	30	51.8	4.56	Stockton a	68	30	53.0	2.38
Crescent City	.....	.....	.....	.....	Napa City b	74	36	51.8	4.56	Stockton b	68	30	56.7	2.46
Crescent City L. H.	.....	.....	.....	.....	National City *8	84								

## Meteorological record of voluntary observers, &amp;c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
Colorado—Cont'd.	0	0	0	In.	Georgia—Cont'd.	0	0	0	In.
Parachute †	64	10	34.6	0.65	Cordie †	82	22	55.2	1.01
Red Cliff	.....	.....	2.46	.....	Covington	78	19	52.1	1.30
River Bend*	70	10	.....	0.70	Dulhongea †	78	18	50.1	1.87
Rocky Ford †	77	5	38.4	T.	Durien †	85	41	64.2	1.33
Saint Cloud	.....	.....	0.45	.....	Dublint	77 <sup>d</sup>	.....	0.63	.....
Sanborn	.....	.....	0.45	.....	Eastman †	77	24	52.6	0.98
San Luis †	61	3	33.1	0.10	Elberton †	79	23	51.6	1.59
Scissors	.....	.....	0.14	.....	Fleming †	80	24	56.2	0.62
Seibert †	.....	.....	0.14	.....	Forsyth* <sup>1</sup>	84	26	57.5	1.54
Smoky Hill Mine †	67	3	35.0	2.70	Gainesville †	78	20	55.8	2.34
Stamford* <sup>1</sup>	60	0	28.8	1.15	Gillsville* <sup>1</sup>	71	20	49.9	2.60
Steamboat Spring†	71	— 2	32.3	0.75	Giffin †	74	20	45.3	1.20
Sunnyside	58	— 4	26.7	3.21	Hawkinsville	87	21	53.2	0.82
Surface Creek †	58	8	35.4	0.92	Hephzibah* <sup>1</sup>	76	30	52.6	1.80
Thon †	72	2	30.5	0.07	Homerville †	82	28	55.3	2.22
T. S. Ranch †	64	11	37.3	0.05	Lafayette	77	19	49.4	2.02
Twin Lakes	.....	.....	1.10	.....	Lagrange †	77	22	52.9	1.63
Wallet	.....	.....	0.40	.....	Lawrenceville †	77	17	46.9	0.14
Ward District	.....	.....	2.94	.....	Lumpkin †	76	24	55.2	2.02
Watkins* <sup>1</sup>	72	12	40.3	.....	McArthur †	81	30	55.8	0.99
Wildef*	.....	.....	0.30	.....	Macon b †	.....	.....	1.21	.....
Yuma	.....	.....	0.41	.....	Marietta †	74	19	48.6	1.92
Zuck	.....	.....	0.08	.....	Marshallville †	79	22	56.4	1.29
Connecticut.	.....	.....	.....	.....	Milledgeville †	78	24	55.4	1.25
Bridgeport* <sup>1</sup>	58	22	42.0	3.18	Millen †	83	22	54.0	2.50
Canton	63	12	41.2	2.71	Morgan †	81	26	54.8	2.00
Colchester	62	16	39.8	3.40	Mount Vernon	.....	.....	0.90	.....
Falls Village	.....	.....	1.84	.....	Newman †	75	18	51.0	1.80
Greenfield Hill	.....	.....	3.02	.....	Piscola	81	30	59.3	1.87
Hartford b	.....	.....	2.46	.....	Point Peter* <sup>1</sup>	70	22	50.3	1.40
Hartford c	60	17	40.4	.....	Poulau †	83	23	51.4	1.90
Lake Konomoc	.....	.....	3.47	.....	Quinton b †	82	28	58.2	1.60
Lebanon	.....	.....	3.20	.....	Resaca †	.....	.....	1.54	.....
Middletown	.....	.....	3.18	.....	Reynolds †	.....	.....	1.12	.....
New Hartford c †	63	14	39.9	3.18	Talbotton †	76	22	49.1	1.87
New Hartford b	62	12	39.1	2.36	Thomasville †	75	22	52.6	1.72
North Franklin	.....	.....	3.36	.....	Toccoa †	74	20	49.6	1.11
N. Grosvenor Dale* <sup>1</sup>	62	12	38.1	2.40	Union Point †	76	22	51.0	1.20
Norwalk b	59	17	39.0	3.24	Washington †	75	24	52.6	1.04
South Manchester	.....	.....	2.51	.....	Way Cross †	78	29	58.6	1.67
Stevenson	.....	.....	3.55	.....	Waynesboro †	79	24	53.2	2.50
Storms 1	62	14	38.2	2.45	West Point †	74	23	54.6	2.08
Thompson* <sup>1</sup>	60	15	37.3	.....	Whitesburg †	.....	.....	1.61	.....
Voluntown* <sup>1</sup>	64	12	39.5	3.75	Idaho.	.....	.....	.....	.....
Wallingford †	.....	.....	2.94	.....	Boise Barracks	62	16	37.6	3.14
Waterbury	60	15	40.7	2.49	Fort Lemhi †	60	4	30.6	0.47
West Simsbury	.....	.....	2.43	.....	Grangeville	54	12	34.2	2.00
Delaware.	.....	.....	.....	.....	Kootenai †	56	6	30.9	9.48
Dover* <sup>1</sup>	65	22	43.8	2.89	Lake †	48	2	28.2	2.45
Kirkwood* <sup>2</sup>	62	.....	42.2	.....	Martin †	68	3	28.5	1.33
Milford* <sup>1</sup>	69	21	44.9	3.08	Murray* <sup>1</sup>	55	4	28.5	1.33
Millsboro <sup>1</sup>	71	18	44.5	3.41	Oakley †	65	7	35.0	0.28
Seaford †	70	20	44.8	3.15	Paris †	66	9	33.6	2.12
District of Columbia.	.....	.....	.....	.....	Payette †	63	10	36.6	3.33
Dist'g Reserv'r* <sup>6</sup>	64	20	43.3	4.00	Illinois.	.....	.....	.....	.....
Rec'g Reserv'r* <sup>6</sup>	64	20	43.2	4.20	Atwood* <sup>3</sup>	76	4	34.2	3.98
West Washington* <sup>1</sup>	68	20	44.6	4.30	Aurora b †	72	1	33.3	2.99
Florida.	.....	.....	.....	.....	Bloomington †	71	— 7	38.3	1.93
Amelia †	74	34	60.1	2.00	Braford †	68	8	36.4	1.87
Archer	88	34	66.2	4.38	Bushnell †	75	8	38.5	1.92
Avon Park* <sup>1</sup>	83	48	68.4	2.58	Carlinville †	73	8	41.6	1.37
Brooksville †	81	38	64.0	2.67	Carlyle	80	3	30.0	1.16
Clermont †	85	43	65.2	2.48	Cordova	85	4	32.4	1.83
De Land	82	38	64.8	.....	Dixon †	70	12	32.4	2.99
Eustis* <sup>1</sup>	87	38	63.8	3.13	Dubois* <sup>1</sup>	70	12	32.4	2.45
Federal Point †	80	37	63.0	3.16	Fayette †	83	10	36.6	3.33
Fort Meade	85	41	66.8	2.67	Grinnell †	75	4	34.2	3.98
Gainesville †	80	35	61.0	2.15	Hannibal †	72	1	33.3	2.99
Grasmere †	83	40	65.8	2.75	Harrison †	74	12	31.0	2.07
Green Cove Spgs †	80	34	61.9	1.73	Havana †	74	11	41.2	0.78
Homeland †	84	41	65.7	2.97	Jordans Grove †	72	1	44.4	1.68
Kissimmee †	86	40	68.0	2.29	Kosciusko †	72	3	34.5	2.26
Lake City †	81	37	63.8	3.45	La Grange †	70	2	35.3	2.62
Manatee <sup>1</sup>	85	40	67.0	2.78	Lakeview †	78	7	40.8	1.90
Merrits Island †	82	48	68.1	1.99	Greenville †	78	7	40.8	1.90
Moseley Hall †	80	30	59.9	2.20	Groveville †	74	11	41.2	0.78
Mullet Key †	78	45	64.9	1.40	Hannibal †	72	1	44.4	1.68
Myers* <sup>1</sup>	84	48	68.4	2.03	Independence †	70	— 4	34.7	2.62
New Smyrna †	83	43	64.6	3.96	Keokuk †	72	1	44.4	1.68
Ocala* <sup>1</sup>	82	35	63.6	3.00	Laurelton †	72	1	44.4	1.68
Orange City †	86	39	66.6	1.96	Leavenworth †	70	— 4	34.7	2.62
Orlando* <sup>1</sup>	86	43	66.9	2.67	Leeds	.....	.....	.....	.....
Oxford* <sup>1</sup>	78	36	63.2	1.83	Leedsburg †	76	8	30.1	1.27
Plant City †	88	36	67.4	2.55	Leavenworth †	72	6	36.6	2.02
Saint Francis B's.	77	34	61.2	3.97	Leedsburg †	72	6	36.6	2.02
Saint Petersburg* <sup>1</sup>	84	44	66.8	3.18	Leedsburg †	72	6	36.6	2.02
Tallahassee* <sup>1</sup>	76	31	58.9	2.53	Leedsburg †	72	6	36.6	2.02
Tarpon Springs †	85	39	66.1	1.93	Leedsburg †	72	6	36.6	2.02
Georgia.	.....	.....	.....	Leedsburg †	72	6	36.6	2.02	
Aidairsville †	77	21	50.4	1.43	Leedsburg †	72	6	36.6	2.02
Alapaha †	82	26	57.6	1.79	Leedsburg †	72	6	36.6	2.02
Albany †	79	27	55.8	1.81	Leedsburg †	72	6	36.6	2.02
Americus †	80	22	55.5	1.28	Leedsburg †	72	6	36.6	2.02
Athens* <sup>1</sup>	73	22	51.2	1.39	Leedsburg †	72	6	36.6	2.02
Athens b †	75	18	50.0	2.23	Leedsburg †	72	6	36.6	2.02
Bainbridge †	83	31	59.1	2.40	Leedsburg †	72	6	36.6	2.02
Bainbridge b †	.....	.....	2.55	Leedsburg †	72	6	36.6	2.02	
Blakely* <sup>1</sup>	77	29	56.9	2.52	Leedsburg †	72	6	36.6	2.02
Brag	81	24	55.4	2.99	Leedsburg †	72	6	36.6	2.02
Camak †	77	22	53.1	1.54	Leedsburg †	72	6	36.6	2.02
Canilla	79	27	56.0	2.16	Leedsburg †	72	6	36.6	2.02
Canton †	70	— 1	51.8	.....	Leedsburg †	72	6	36.6	2.02
Clayton	70	14	46.4	2.49	Leedsburg †	72	6	36.6	2.02
Cohutta	76	17	52.6	0.96	Leedsburg †	72	6	36.6	2.02
Columbus †	86	25	57.9	1.65	Leedsburg †	72	6	36.6	2.02

## Meteorological record of voluntary observers, &amp;c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
Illinois—Cont'd.	0	0	0	In.	Illinois—Cont'd.	0	0	0	In.
Walnut †	82	22	36.6	2.11	Walnut †	75	3	36.6	2.11
Warsaw †	78	19	32.1	0.77	Winnebago <sup>1</sup>	71	— 3	32.9	1.67
Ovid †	79	21	34.7	1.16	Angola <sup>1</sup>	68	7	38.3	3.65
Panama†	72	— 4	34.7	0.46	Ashboro †	69	9	41.1	3.35
Richland <sup>1</sup>	78	— 6	33.5	1.96	Bedford †	73	11	41.4	2.23
Rock Rapids	72	— 6	31.6	0.30	Butterville †	68	10	41.1	2.23
Sibley	74	— 9	30.3	0.17	Cambridge City†	66	7	39.3	2.80
Spirit Lake †	77	— 13	32.2	0.28	Columbia City <sup>1</sup>	62	8	35.9	3.10
Storm Lake †	73	— 3	33.8	1.03	Columbus	70	12	41.8	2.72
Tipton †	70	— 6	34.8	2.00	Cornwall <sup>1</sup>	68	10	40.4	2.85
Vilseca	71	— 6	33.4	1.21	Dagonia Springs <sup>6</sup>	73	16	44.4	1.21
Vinton <sup>1</sup>	71	— 6	33.4	1.21	Delphi	63	6	30	

*Meteorological record of voluntary observers, &c.—Continued.*

Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean	
Kentucky—Cont'd.	0	0	0	Ins.
Middlesboro <sup>†</sup>	67	12	43.8	1.00
Mount Sterling <sup>†</sup>	70	12	41.4	3.48
Munfordville <sup>†</sup>	70	15	46.0	.....
Paducah <sup>a</sup>	.....	.....	3.19	.....
Paducah <sup>b</sup>	78	19	47.0	3.26
Pellville <sup>†</sup>	74	14	45.7	3.29
Princeton <sup>†</sup>	75	16	43.0	1.86
Russellville <sup>†</sup>	78	16	44.6	3.69
Sandy Hook <sup>†</sup>	72	8	42.9	4.00
Shelby City <sup>†</sup>	70	14	44.2	3.22
Shelbyville <sup>†</sup>	69	12	42.3	3.41
South Fork <sup>†</sup>	.....	.....	41.0	3.37
Williamsburg <sup>a</sup>	.....	.....	2.30	.....
Louisiana	.....	.....	.....	.....
Abbeville <sup>1</sup>	86	31	59.8	8.05
Alexandria <sup>†</sup>	80	24	52.4	7.40
Amitie <sup>†</sup>	84	27	56.6	6.28
Baton Rouge <sup>†</sup>	79	33	55.6	6.99
Cahoun	81	26	52.2	4.78
Cameron <sup>†</sup>	89	25	59.5	6.04
Cheneyville <sup>†</sup>	.....	.....	7.02	.....
Clinton <sup>†</sup>	.....	.....	6.47	.....
Coushatta <sup>a</sup>	.....	.....	8.24	.....
Coushatta <sup>b</sup>	84	23	56.6	8.24
Covington <sup>†</sup>	73	30	49.6	6.12
Davis	80	23	57.4	6.84
Deihl <sup>†</sup>	.....	.....	5.43	.....
Donaldsonville <sup>†</sup>	83	32	60.2	8.25
Emilie <sup>†</sup>	81	32	57.7	6.27
Farmerville	83	26	52.2	6.48
Franklin <sup>†</sup>	79	34	59.4	8.82
Girard <sup>†</sup>	89	23	49.2	5.25
Grand Coteau <sup>1</sup>	80	33	57.8	6.42
Hamburg <sup>†</sup>	.....	.....	7.91	.....
Hammond <sup>†</sup>	86	29	56.1	6.37
Houma <sup>†</sup>	86	34 <sup>d</sup>	61.0	4.01
Jeanerette <sup>†</sup>	84	30	60.0	6.70
Lafayette <sup>†</sup>	88	30	59.8	7.28
Lake Charles <sup>†</sup>	78	31	59.3	8.80
Lake Providence <sup>†</sup>	80	24	53.0	5.00
Lawrence <sup>†</sup>	80 <sup>e</sup>	35 <sup>e</sup>	59.8 <sup>e</sup>	4.40
Maurepas	84	27	58.2	6.39
Melville <sup>†</sup>	85	32	62.5	6.23
Minden <sup>†</sup>	82	20	53.8	7.02
Monroe <sup>†</sup>	81	27	55.2	5.61
Natchitoches <sup>†</sup>	83	27	53.4	6.61
Opelousas <sup>†</sup>	83	29	58.5	5.76
Oxford	84	22	53.4	7.78
Paincourtville <sup>†</sup>	83	31	57.4	8.10
Plaquemine <sup>†</sup>	79	30	58.6	6.00
Rayne <sup>†</sup>	85	27	57.6	5.83
Roseland	82	30	57.3	6.90
Schriever <sup>†</sup>	82	.....	5.42	.....
Shell Beach	80	34	59.2	5.19
Sugar Ex. Station <sup>†</sup>	80	33	59.1	7.50
Thibodeaux	.....	.....	4.57	.....
Wallace <sup>†</sup>	83	34	59.0	6.48
West End	.....	.....	6.03	.....
Winnfield <sup>†</sup>	83	27	55.0	6.51
Winnssboro	86	.....	2.16	.....

*Maine.*

Bar Harbor	60	11	38.5	2.23
Belfast <sup>a</sup>	56	14	36.2	2.46
Calais <sup>†</sup>	61	12	37.2	2.21
Cornish <sup>†</sup>	57	10	35.2	2.54
Easton <sup>†</sup>	60	10	29.6	1.45
Fairfield	55	15	36.0	0.80
Farmington <sup>†</sup>	59	10	34.5	2.99
Fort Kent <sup>†</sup>	55	4	29.5	1.13
Gardiner <sup>†</sup>	57	12	35.7	1.83
Houlton <sup>†</sup>	53	8	30.6	0.85
Lewiston <sup>†</sup>	60	14	35.5	2.31
Mattawamkeag <sup>a</sup>	56	6	35.6	1.08
Mayfield	54	4	30.8	3.49
North Bridgeton	57	14	36.3	2.73
Orono <sup>†</sup>	57	9	33.7	1.43
Petit Menan <sup>†</sup>	52	17	39.5	.....
West Jonesport <sup>†</sup>	54	7	36.7	.....

*Meteorological record of voluntary observers, &c.—Continued.*

Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean	
Massachusetts	0	0	0	Ins.
Adams <sup>a</sup>	60	15	37.7	.....
Amherst Ex. St <sup>n</sup> a	62	10	36.9	2.66
Andover	68	13	40.5	1.90
Ashland	.....	.....	2.16	.....
Bedford	67	10	38.5	1.95
Beverly Farms	65	14	39.7	1.92
Blue Hill (sumt.)	65	16	39.4	2.17
Blue Hill (valley)	68	9	38.5	2.16
Boston	.....	.....	2.38	.....
Cambridge	68	14	41.0	1.79
Cambridge <sup>b</sup>	68	17	40.0	1.99
Chestnut Hill	68	12	40.6	0.00
Clinton	.....	.....	1.75	.....
Concord <sup>a</sup>	65	10	38.6	2.00
Dudley <sup>†</sup>	65	12	38.4	2.01
East Templeton <sup>†</sup>	58	10	34.8	0.84
Egg Rock, Nahant	c2	20	40.8	.....
Fall River <sup>a</sup>	65	19	41.6	3.84
Fiskedale	.....	.....	2.16	.....
Fitchburg <sup>a</sup>	58	12	36.8	2.48
Fitchburg <sup>b</sup>	61	11	37.4	2.33
Framingham	64	9	38.8	2.23
Gilbertown	58	10	35.8	2.40
Great Barrington <sup>†</sup>	67	11	36.7	.....
Groton <sup>a</sup>	63	8	36.9	2.41
Hadley	60	9	35.0	2.55
Hingham	.....	.....	2.50	.....
Hyannis <sup>1</sup>	66	22	44.2	2.25
Kendall Green	.....	.....	1.91	.....
Lake Cochituate	.....	.....	2.68	.....
Leawrence	63	12	38.6	1.82
Leeds	58	8	35.8	2.80
Leicester	60	14	37.0	1.53
Leominster <sup>†</sup>	62	12	35.0	2.31
Long Plain <sup>†</sup>	64	14	36.4	2.60
Lowell <sup>a</sup>	62	12	38.6	1.93
Lowell <sup>b</sup>	67	10	38.6	.....
Lynd <sup>b</sup>	70	18	43.1	.....
Mansfield <sup>a</sup>	67	9	38.0	2.71
Medford	67	12	35.6	1.62
Middleboro	69	10	39.0	2.67
Milton <sup>†</sup>	62	15	40.2	1.98
Monroe	57	4	32.8	2.11
Monson <sup>†</sup>	62	9	38.2	1.14
Mount Nonotuck	.....	.....	2.13	.....
Mystic Lake	.....	.....	2.25	.....
Mystic Station	.....	.....	2.21	.....
New Bedford <sup>a</sup>	66	18	40.7	2.63
New Bedford <sup>b</sup>	66	15	41.2	2.71
Newburyport <sup>b</sup>	.....	.....	2.31	.....
North Billerica <sup>†</sup>	67	15	41.4	1.77
Plymouth <sup>†</sup>	66	20	43.3	2.81
Provincetown	64	19	42.2	2.47
Randolph	.....	.....	2.17	.....
Roxbury	68	18	41.4	1.83
Royalston <sup>†</sup>	56	18	36.5	1.50
Salem <sup>a</sup>	.....	.....	1.77	.....
Salem <sup>b</sup>	60	12	38.3	2.15
Salisbury	.....	.....	1.71	.....
Somerset <sup>†</sup>	66	14	42.2	2.53
South Dennis	65	18	41.4	2.59
Springfield Arm'y	60	12	38.0	2.02
Taunton <sup>b</sup>	70	13	40.5	2.37
Taunton c	69	9	39.7	2.92
Taunton d <sup>†</sup>	71	10	40.8	1.66
Turners Falls	60	12	38.3	2.00
Wakefield <sup>†</sup>	63	18	39.3	2.15
Waltham	.....	.....	1.71	.....
Webster	.....	.....	2.38	.....
Wellesley	65	9	39.4	2.11
Westboro <sup>†</sup>	65	10	39.8	2.02
Williamstown <sup>†</sup>	60	15	36.2	1.22
Winchendon <sup>†</sup>	.....	.....	1.85	.....
Winthrop <sup>†</sup>	66	16	40.9	1.69
Worcester <sup>a</sup>	60	15	38.0	2.21
Worcester b <sup>†</sup>	61	14	38.5	2.28
Yarmouth	.....	.....	1.77	.....
Michigan	.....	.....	1.71	.....
Adrian	67	11	37.3	5.27
Albion <sup>†</sup>	61	12	37.2	2.48
Allegan	67	14	36.6	3.19
Alma	65	10	35.6	3.06
Ann Arbor <sup>†</sup>	60	14	35.5	3.68
Arbela <sup>2</sup>	.....	.....	3.44	1.78
Ball Mountain	60	10	36.6	3.08
Bear Lake	59	14	33.8	2.57
Bellaire	68	6	31.4	2.83
Benton Harbor	66	12	38.0	3.51
Berlin <sup>†</sup>	65	12	35.2	3.26
Berrien Springs <sup>a</sup>	62	13	38.2	3.23
Berrien Springs b	62	13	38.2	2.73
Birmingham <sup>†</sup>	63	13	37.7	3.28
Boon	60	4	32.9	3.43
Bronson	70	20	34.9	2.14
Brown City	63	10	35.8	2.25
Calumet	63	8	29.6	2.50
Charlevoix	68	13	38.8	2.90
Chesogyan	65	13	33.8	2.96
Climax <sup>1</sup>	74	8	38.3	2.31
Clinton	66	6	30	3.60
Crystal Falls	67	2	32.4	1.00
Fairview	62	7	35.3	4.87
Fitchburg	62	9	35.0	3.36

*Meteorological record of voluntary observers, &c.—Continued.*

Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean	
Michigan—Cont'd.	0	0	0	Ins.
Flint <sup>3</sup>	63	18 <sup>*</sup>	33.0	2.62
Gaylord	63	6	33.0	7.36
Grand Rapids <sup>1</sup>	64	12	36.0	3.50
Grape	66	11	38.5	3.11
Hanover	62	9	37.9	2.87
Harrison <sup>†</sup>	62	3	29.7	2.10
Harrisonville <sup>†</sup>	58	12	34.2	2.34
Hartsville	60	10	39.8	1.55
Hawthorne <sup>†</sup>	62	7	34.0	2.50
Colombus b <sup>†</sup>	76	23	34.0	2.68
Enterprise <sup>†</sup>	60	21	31.4	1.08
Fayette <sup>†</sup>	78	28	35.4	4.75
French Camps <sup>†</sup>	76	19	48.6	2.95
Greenville b <sup>†</sup>	80	24	53.2	6.33
Hattiesburg <sup>†</sup>	82	26	58.2	6.90
Hazlehurst <sup>†</sup>	81	26	55.4	4.63
Hermundo <sup>†</sup>	77	22	51.3	2.79
Holly Springs <sup>†</sup>	68	22	47.6	3.04
Jackson <sup>†</sup>	78	26	55.4	4.00
Kosciusko <sup>†</sup>	79	24	51.2	2.60
Lake <sup>†</sup>	82	26	53.4	3.97
Lugtown <sup>†</sup>	73	32	57.7	5.02
Louisville <sup>†</sup>	78	19	51.6	3.70
McComb <sup>†</sup>	77 <sup>0</sup>	21 <sup>0</sup>	51.6 <sup>0</sup>	4.84
Mississippi—Cont'd.	0	0	0	Ins.
Batesville <sup>†</sup>	76	20	50.0	5.26
Biloxi <sup>†</sup> </td				

## Meteorological record of voluntary observers, &amp;c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean	
Missouri—Cont'd.	0	0	0	Ins.
Phillipsburg <sup>†</sup>	70 <sup>d</sup>	9	40.5 <sup>d</sup>	1.54
Pickering <sup>†</sup>	73	17	37.4	1.12
Plate River <sup>†</sup>	72	12	35.2	0.73
Potosi	71	5	40.4	1.02
Princeton <sup>†</sup>	73	5	38.3	0.70
Rolla <sup>†</sup>	.....	.....	1.57	.....
Round Springs	.....	.....	2.84	.....
Saint Charles <sup>†</sup>	75	10	43.1	1.58
Saint Joseph <sup>†</sup>	75	10	43.1	0.72
Saint Louis <sup>†</sup>	72	11	42.0	1.56
Sarcoxie <sup>†</sup>	76	17	46.6	1.58
Sedalia	76	9	41.4	2.16
Shelbia <sup>†</sup>	.....	.....	1.20	.....
Steelville <sup>†</sup>	8	37.0	2.70	.....
Steffenville	.....	.....	1.70	.....
Stellad <sup>†</sup>	75	10	44.4	1.45
Unionville	74	4	32.6	0.50
Vaneleva <sup>†</sup>	.....	.....	0.08	.....
Vermont <sup>†</sup>	74	9	40.2	1.86
Vilas	.....	.....	0.88	.....
Virgil City	.....	.....	1.65	.....
Warrensburg <sup>†</sup>	71	12	41.4	1.74
Warrenton	76	10	41.8	1.44
Wheatland	.....	.....	1.54	.....
Whitecade <sup>†</sup>	70	7	41.6	1.30
Montana.	.....	.....	.....	.....
Boulder <sup>†</sup>	60	-10	29.1	0.54
Chouteau <sup>†</sup>	65	-12	29.0	2.10
Cokedale <sup>†</sup>	52	.....	28.6	3.49
Deer Lodge City <sup>†</sup>	60	-4	30.3	0.93
Elk Park <sup>†</sup>	55	.....	3.58	.....
Fort Custer <sup>†</sup>	65	-12	31.7	1.68
Fort Keogh	62	-16	26.1	0.49
Fort Logan	54	-10	26.2	1.05
Fort Missoula	61	1	30.0	1.78
Glasgow <sup>†</sup>	65	-25	22.5	.....
Glendive <sup>†</sup>	62	-18	26.0	1.25
Great Falls <sup>†</sup>	62	-13	27.6	1.33
Hogan <sup>†</sup>	67	-15	30.4	0.57
Martinsdale <sup>†</sup>	55	-16	28.8	2.35
Virginia City <sup>†</sup>	54	4	32.0	0.29
Nebraska.	.....	.....	.....	.....
Agee <sup>†</sup>	72	-10	31.7	0.43
Ansley <sup>†</sup>	88	-7	33.8	T.
Arborville <sup>†</sup>	72	8	33.7	0.75
Ashland <sup>†</sup>	74	0	35.0	0.64
Ashton <sup>†</sup>	72	2	33.6	0.11
Bassett <sup>†</sup>	70	-10	32.3	0.46
Beatrice <sup>†</sup>	73	-3	36.8	0.57
Beaver City	79°	2°	37.8	T.
Bratton	.....	.....	1.00	.....
Callaway <sup>†</sup>	78	1	35.8	0.05
Columbus <sup>†</sup>	74	4	33.3	0.49
Cornelia	.....	.....	0.49	.....
Creighton <sup>†</sup>	72	-10	31.2	0.20
Crete	73	4	38.2	0.34
Culbertson <sup>†</sup>	.....	.....	0.34	.....
David City <sup>†</sup>	69	-3	30.3	0.55
De Soto	75	-4	35.3	0.46
Ericson <sup>†</sup>	72	-4	33.4	T.
Ewing <sup>†</sup>	.....	.....	0.06	.....
Fairbury <sup>†</sup>	70	16	40.0	0.79
Fort Robinson	70	-2	35.4	0.23
Fort Sidney	70	-4	35.4	0.13
Franklin <sup>†</sup>	79	8	36.9	0.80
Geneva <sup>†</sup>	72	0	35.0	1.05
Genoa <sup>†</sup>	70	-2	33.4	0.72
Gering <sup>†</sup>	70	-1	36.2	0.17
Glenwood <sup>†</sup>	72	-2	27.5	0.10
Haigner <sup>†</sup>	92	8	33.8	0.27
Hartington <sup>†</sup>	74	0	33.4	1.26
Harvard <sup>†</sup>	72	1	34.6	0.50
Hay Springs <sup>†</sup>	66	-5	31.4	0.20
Hebron <sup>†</sup>	78	9	37.7	0.98
Holdrege <sup>†</sup>	4°	32.4	0.10	.....
Imperial <sup>†</sup>	70	12	39.9	0.20
Indiana <sup>a</sup>	80	4	39.1	T.
Kennedy <sup>†</sup>	79	-3	33.8	0.21
Kimball <sup>†</sup>	70	-2	36.0	0.10
Lamar	.....	.....	0.00	.....
Lexington <sup>†</sup>	82	1	40.2	0.15
Lincoln <sup>†</sup>	73	2	37.0	0.48
Lynch <sup>†</sup>	72	-10	31.1	0.68
Madrid <sup>†</sup>	73	6	34.4	0.30
Marquette <sup>†</sup>	74	0	.....	0.77
Minden <sup>†</sup>	74	2	35.2	0.43
Mullen <sup>†</sup>	70	-2	33.6	0.16
Nebraska City <sup>†</sup>	71	10	35.3	.....
Nesbit <sup>†</sup>	75	0	34.9	0.15
Norfolk <sup>†</sup>	70	-5	32.4	0.35
North Loup <sup>†</sup>	74*	5	36.4	0.12
O'Neill <sup>†</sup>	70	-10	31.4	0.40
Ough <sup>†</sup>	.....	.....	0.01	.....
Palmer <sup>†</sup>	72	0	32.7	0.30
Plattsmouth <sup>†</sup>	.....	.....	0.49	.....
Ravenna <sup>†</sup>	79	0	34.8	0.21
Red Cloud	.....	.....	0.18	.....
Santee Agency <sup>†</sup>	74	-8	34.5	0.44
Seward <sup>†</sup>	80	-4	38.2	1.20
Springview	76	-7	32.6	0.49
Stanton <sup>†</sup>	74	-6	31.0	0.58
State Farm <sup>†</sup>	75	1	36.6	0.45
Superior <sup>†</sup>	72	12	38.6	0.74
Sutton <sup>†</sup>	72	-1	33.0	0.97
Syracuse <sup>†</sup>	72	3	36.9	0.50

## Meteorological record of voluntary observers, &amp;c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean	
Nebraska—Cont'd.	0	0	0	Ins.
Table Rock <sup>†</sup>	83	10	39.3	0.41
Tecumseh <sup>†</sup>	64 <sup>f</sup>	13 <sup>f</sup>	33.4 <sup>f</sup>	0.90
Wallace <sup>†</sup>	72	4	34.2	0.15
Weeping Water <sup>†</sup>	70	2	31.8	0.50
West Point <sup>†</sup>	72	5	37.0	0.40
Whitman <sup>†</sup>	60	0	31.3	0.05
Wilcox <sup>†</sup>	.....	.....	0.32	.....
York <sup>†</sup>	70	4	37.6	0.50
Nevada.	.....	.....	.....	.....
Austin	54	5	34.8	0.55
Battle Mountain <sup>†</sup>	67	7	36.0	0.20
Belmont	56	6	37.8	0.20
Beowawe <sup>†</sup>	55	2	34.3	1.27
Candelaria	70	14	44.4	T.
Carlton <sup>†</sup>	57	6	28.0	0.55
Carson City <sup>†</sup>	64	5	39.7	1.49
Crane Ranch	.....	.....	1.11	.....
Downeyville	73	12	44.8	0.27
Edgewood	57	11	36.6	0.55
Elko <sup>†</sup>	66	-3	31.5	1.25
Ely	58	0	33.5	0.50
Empire Ranch	5	0	0.11	.....
Fenelon <sup>†</sup>	70	4	38.2	1.85
Genoa	.....	.....	0.40	.....
Golconda <sup>†</sup>	68	10	35.4	0.30
Gold Hill	85	12	47.8	0.48
Halleck <sup>†</sup>	60	-8	27.9	1.15
Hawthorne b	67	17	42.7	0.20
Hot Springs <sup>†</sup>	73	15	41.2	0.29
Humboldt <sup>†</sup>	48	22	35.4	0.00
Lewers Ranch	63	13	42.8	3.81
Mill City <sup>†</sup>	67	22	42.2	.....
Monitors Ranch	60	2	33.6	0.33
Palisade <sup>†</sup>	62	0	32.8	0.00
Palmetto	62	3	36.1	0.70
Readington <sup>†</sup>	68 <sup>d</sup>	28 <sup>d</sup>	48.5 <sup>f</sup>	.....
River Vale <sup>†</sup>	65	16	40.4	3.47
Salem	64	20	43.0	3.16
Somerville	70	17	42.5	3.22
South Orange <sup>†</sup>	60	22	40.8	4.05
Tenaya <sup>†</sup>	62	18	39.9	3.63
Toms River	67	14	41.6	3.05
Trenton	63	22	43.2	3.37
Vineland	68	19	43.4	3.75
Whiting	68	20	43.8	2.85
Woodline	69	16	43.0	2.40
New Jersey.	.....	.....	.....	.....
Asbury Park	54	16	39.4	3.34
Gillette	61	16	39.4	3.60
Hanover	63	20	41.4	3.23
Highland Park <sup>†</sup>	61	19	41.0	3.93
Hightstown <sup>†</sup>	63	26	42.8	4.53
Junction	64	22	42.6	3.83
Lambertville	61	20	39.4	3.88
Millville	68	15	44.0	3.27
Moorestown <sup>†</sup>	67	19	41.8	3.60
Newark <sup>a</sup>	66	22	41.0	3.65
Newark b	61	23	43.3	3.30
New Brunswick a	65	21	42.4	3.91
New Brunswick b	62	20	41.5	3.99
Newton	59	16	38.8	2.89
Ocean City	68	21	44.8	2.37
Oceanic	66	26	40.2	3.05
Paterson	68	20	43.9	3.85
Pensauken	62	19	41.0	3.02
Perth Amboy	62	23	41.0	4.32
Plainfield	62	19	41.0	3.75
Rancocas	.....	.....	3.32	.....
Readington <sup>†</sup>	68 <sup>d</sup>	28 <sup>d</sup>	48.5 <sup>f</sup>	.....
River Vale <sup>†</sup>	65	16	40.4	3.47
Salem	64	20	43.0	3.16
Somerville	70	17	42.5	3.22
South Orange <sup>†</sup>	60	22	40.8	4.05
Tenaya <sup>†</sup>	62	18	39.9	3.63
Toms River	67	14	41.6	3.05
Trenton	63	22	43.2	3.37
Vineland	68	19	43.4	3.75
Whiting	68	20	43.8	2.85
Woodline	69	16	43.0	2.40
New Mexico.	.....	.....	.....	.....
Albuquerque <sup>†</sup>	68	18	41.2	0.17
Albuquerque <sup>†</sup>	68	3	37.8	0.85
Alamogordo <sup>†</sup>	63	3	31.7	0.35
Coolidge <sup>†</sup>	63	3	31.7	0.35
Deming <sup>†</sup>	64	34	57.0	0.00
East Las Vegas <sup>†</sup>	67	9	40.0	0.00
Estancia Springs <sup>†</sup>	77	13	38.0	0.23
Forts <sup>†</sup>	71	15	43.4	0.00
Gallinas Spring <sup>†</sup>	71	15	43.4	0.00
Hales Peak <sup>†</sup>	63 <sup>c</sup>	-3°	35.8 <sup>c</sup>	0.20
Las Cruces <sup>†</sup>	75 <sup>e</sup>	24°	48.6	0.02
Lordsburg <sup>†</sup>	60	23	49.9	0.00
Los Lunas <sup>†</sup>	63	20	38.9	T.
Montero <sup>†</sup>	58	5	31.6	0.55
Socorro <sup>†</sup>	76	21	46.2	T.
Sulphur Hot Spgs	57	-3	30.0	0.54
Taos <sup>†</sup>	63	8	35.6	T.
Watrous	.....	.....	0.00	.....
New York.	.....	.....	.....	.....
Addison <sup>†</sup>	60	20	37.0	1.22
Alfred Center	58	8	34.5	2.98
Angelic <sup>†</sup>	64	7	34.2	2.12
Arcade <sup>†</sup>	63	11	34.2	1.95
Arkwright	60	20	37.2	.....
Atlanta	.....	.....	1.27	.....
Baldwinville <sup>†</sup>	64	12	37.4	2.11
Bedford	.....	.....	3.78	.....
Binghamton <sup>†</sup>	63	19	36.6	1.38
Biloxi	.....	.....	1.83	.....
Boonville	.....	.....	3.14	.....
Bovine Center	.....	.....	3.50	.....
Brockport <sup>†</sup>	63	21	38.7	1.00
Brookfield <sup>†</sup>	61	8	33.9	1.11
Central Park, N. Y.	60	26	42.9	3.55
Cherry Creek	.....	.....	4.91	.....
Cooperstown <sup>†</sup>	61	12	35.0	2.20
Covertland	55	20	35.3	1.94
De Kalb Junction	55	22	35	

*Meteorological record of voluntary observers, &c.—Continued.*

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
<i>Ohio.</i>									
Akron <sup>1</sup>	64	15	39.1	1.58	Thurman	70	10	44.7	2.71
Annapolis	69	10	38.5	1.43	Tiffin <sup>†</sup>	65	12	38.9	2.15
Arcanum	.....	.....	.....	1.90	Upper Sandusky <sup>1</sup>	64	10	39.6	2.19
Ashland <sup>1</sup>	66	13	38.0	2.22	Vanceburg	68	14	42.8	2.21
Athens <sup>1</sup>	68	10	39.6	1.72	Van Wert	68	8	37.0	2.80
Auburn	64	2	36.9	1.82	Vermillion	65	13	38.3	1.97
Bangorville <sup>1</sup>	65	7	38.1	2.47	Vickery <sup>1</sup>	65	13	38.1	1.95
Batavia	.....	.....	.....	2.39	Walnut	.....	.....	.....	1.61
Bement <sup>1</sup>	65	9	34.7	3.79	Warren	67	8	38.2	1.17
Benton Ridge	69	7	38.1	2.10	Wauseon <sup>1</sup>	68	6	38.5	3.88
Bethany	64	11	37.2	1.98	Waverly <sup>1</sup>	72	8	40.5	2.11
Big Prairie	65	13	38.0	1.78	Waynesville	.....	1.90	.....	2.00
Binda	65	15	37.5	2.22	Wellington	.....	2.00	.....	2.00
Bisells	64	8	38.0	1.96	Westerville <sup>1</sup>	65	13	39.6	2.21
Bladensburg	66	9	36.8	2.78	Weymouth	66	10	38.0	3.82
Bloomingburg <sup>1</sup>	74	8	38.2	2.32	Wheeler <sup>†</sup>	.....	37.9	.....	3.82
Bloomington	.....	.....	.....	2.27	Wooster <sup>1</sup>	66	15	37.6	2.49
Bowling Green	70	7	35.8	2.65	Wooster <sup>†</sup>	.....	2.49	.....	2.49
Bucyrus <sup>1</sup>	76	10	37.2	.....	Youngstown <sup>1</sup>	68	9	38.1	2.07
Cadiz	.....	.....	.....	0.55	Zanesville <sup>†</sup>	.....	2.07	.....	2.07
Caledonia <sup>†</sup>	.....	.....	.....	2.16	Oklahoma Ter.	.....	.....	.....	.....
Cambridge	65	11	37.9	1.54	Anadarko <sup>†</sup>	87	14	46.4	0.63
Canal Dover <sup>1</sup>	67	9	36.9	1.71	Burnett <sup>†</sup>	84	13	46.3	1.70
Canton <sup>1</sup>	63	15	38.7	1.75	Fort Reno <sup>†</sup>	86	17	48.6	0.93
Cardington	62	8	35.6	1.74	Fort Sill	85	18	46.4	1.30
Carlton	66	11	39.2	1.57	Fort Supply	88	10	41.4	0.70
Cedarville	.....	.....	.....	2.35	Keokuk Falls <sup>†</sup>	82	15	45.2	1.46
Celina <sup>1</sup>	73	6	42.2	2.02	Mangum <sup>†</sup>	89	9	47.6	0.10
Cherry Fork	69	6	40.7	2.87	Ponca <sup>†</sup>	93	13	41.6	2.81
Chicago	64	3	36.0	1.85	Oregon.	.....	.....	.....	.....
Circleville <sup>1</sup>	.....	.....	.....	1.52	Albany a <sup>†</sup>	61	24	43.7	10.58
Clarksville <sup>1</sup>	67	10	39.7	2.08	Albany b <sup>*8</sup>	62	26	44.6	7.30
Cleveland <sup>1</sup>	65	14	39.3	2.13	Arlington <sup>†</sup>	69	19	41.2	1.96
Coatton	74	8	40.2	1.94	Ashland a <sup>*8</sup>	58	18	41.5	3.32
Colebrook	.....	.....	.....	Ashland b	67	20	43.4	3.47	
Dayton a <sup>1</sup>	67	10	40.8	1.63	Aurora <sup>*8</sup>	65	29	49.2	7.99
Dayton b <sup>†</sup>	.....	.....	.....	Bandon	60	23	44.3	8.89	
Demos	67	14	40.6	1.94	Corvallis a <sup>†</sup>	64	33	49.0	14.04
Dupont <sup>1</sup>	67	10	39.2	3.16	Corvallis b <sup>*8</sup>	62	20	44.8	7.20
Ellsworth	64	9	37.8	1.25	Canyon City <sup>†</sup>	67	11	40.0	3.76
Elyria	68	15	39.0	2.03	Comstock <sup>*8</sup>	62	20	44.7	6.63
Findlay <sup>1</sup>	66	8	37.6	2.55	Corvallis c <sup>†</sup>	60	22	43.6	8.28
Frankfort	68	16	41.7	2.62	Corvallis d <sup>*8</sup>	58	22	42.9	7.91
Garretttsville <sup>1</sup>	64	5	35.8	1.88	Corvallis (near)	61	24	43.8	10.14
Granville <sup>1</sup>	67	10	37.1	2.26	Crook	62	5	38.0	2.15
Gratiot	66	12	39.6	2.03	Eugene	.....	.....	.....	7.59
Greenfield	72	10	43.0	1.65	Gardiner	61	31	48.4	16.53
Green Hill	65	9	35.8	1.35	Glenora	58	20	41.2	34.88
Greenville <sup>1</sup>	63	9	38.4	2.12	Grants Pass <sup>†</sup>	68	16	43.5	6.10
Guyasville	68	9	39.4	1.75	Grants Pass b <sup>*8</sup>	70	24	47.0	4.66
Hackney	65	10	39.4	1.46	Heppner <sup>†</sup>	64	19	41.8	2.29
Hanging Rock <sup>1</sup>	73	8	41.1	2.87	Hood River (near)	57	21	40.1	9.56
Harbor <sup>1</sup>	67	13	39.7	3.23	Hubbard	63	22	43.2	7.59
Hillhouse	75	3	38.2	4.03	Jacksonville	68	22	44.4	6.87
Hillsboro	71	7	40.5	2.93	Joseph <sup>†</sup>	53	6	32.4	2.22
Hiram <sup>1</sup>	67	10	37.1	2.02	Junction City <sup>*8</sup>	68	26	46.0	8.02
Jacksonboro <sup>†</sup>	70	8	38.6	1.75	Lafayette <sup>*8</sup>	66	22	46.7	12.41
Kenton <sup>†</sup>	69	9	40.3	2.08	La Grande <sup>†</sup>	59	17	38.0	3.62
Kilbourne	65	8	38.8	1.86	Lakeview <sup>†</sup>	62	9	34.8	3.68
Killbuck	64	10	37.1	2.19	Langlois	75	28	51.4	20.42
Leipsic	68	9	38.2	3.07	Leland <sup>*8</sup>	62	20	45.0	6.07
Levering	68	8	37.2	2.31	McMinnville a <sup>†</sup>	60	23	44.2	11.57
Logan <sup>1</sup>	70	10	41.5	1.75	McMinnville b <sup>*8</sup>	62	24	44.6	10.94
Lordstown <sup>1</sup>	62	8	36.6	1.25	Monmouth <sup>*8</sup>	62	29	45.2	9.93
Lowell	71	10	39.2	1.13	Ridgewood <sup>†</sup>	65	21	48.2	1.87
McConnellsburg <sup>1</sup>	73	11	41.4	1.92	Salem b <sup>†</sup>	61	13	41.4	0.90
Mansfield <sup>†</sup>	.....	.....	.....	Sheridan	62	23	45.3	9.38	
Marietta a <sup>†</sup>	.....	.....	.....	Silverton <sup>*8</sup>	66	22	44.0	8.05	
Marietta b <sup>†</sup>	69	18	42.7	2.06	Spokane	65	25	47.9	11.08
Marion <sup>1</sup>	69	7	37.6	1.82	Springbrook	60	28	45.4	11.08
Mifordton	.....	.....	.....	Springfield <sup>*8</sup>	60	20	43.0	10.16	
Milligan	69	10	39.0	1.91	The Dalles <sup>†</sup>	64	21	43.4	7.16
Millport	65	9	38.4	1.22	Toledo	65	28	48.2	18.89
Montpelier <sup>1</sup>	64	6	35.6	3.88	Umatilla <sup>†</sup>	61	47	49.0	1.47
Mountville <sup>1</sup>	69	10	39.8	2.52	Vale	58	6	35.6	1.77
Napoleon <sup>1</sup>	68	9	38.7	3.02	Vernonia <sup>†</sup>	64	20	44.9	15.34
Nelsonville	.....	.....	.....	West Fork <sup>*8</sup>	68	26	45.8	8.52	
New Alexandria <sup>1</sup>	64	13	40.0	1.44	Williams	64	18	43.6	7.45
New Berlin <sup>1</sup>	64	12	37.2	1.13	Pennsylvania.	.....	.....	.....	.....
New Comerstown <sup>1</sup>	65	11	38.2	1.94	Altoona	63	20	44.9	1.48
New Holland	68	8	39.4	2.46	Aqueduct <sup>†</sup>	59	19	39.4	3.14
New Paris <sup>1</sup>	64	8	35.4	2.06	Beaver Dam <sup>†</sup>	.....	.....	.....	1.91
North Lewisburg <sup>1</sup>	66	9	39.6	2.50	Blooming Grove <sup>†</sup>	57	18	34.8	9.51
North Royalton	64	11	37.0	1.78	Brookville <sup>†</sup>	60	25	48.0	1.92
Northwood <sup>1</sup>	76	8	39.1	2.20	Blue Knob	58	6	34.6	2.79
Oberlin <sup>1</sup>	67	13	38.9	2.30	Brookville <sup>†</sup>	61	15	38.0	4.81
O. S. University <sup>1</sup>	69	11	39.3	1.67	Browns Lock	.....	.....	.....	4.81
Orangeville	64	3	37.0	1.50	Connors <sup>†</sup>	70	28	53.9	1.33
Pataksala	67	11	38.2	2.37	Cross Hill <sup>†</sup>	74	25	50.5	3.46
Plattisburg	66	9	38.7	2.41	Edenboro <sup>†</sup>	79	27	57.0	2.14
Pomeroy	66	10	40.8	1.72	Holland's Store <sup>†</sup>	77	16	49.6	2.04
Portsmouth a <sup>†</sup>	.....	.....	.....	Kingstreet <sup>†</sup>	76	21	50.2	1.20	
Portsmouth b <sup>†</sup>	75	12	41.7	Longshore <sup>†</sup>	78	24	53.4	1.15	
Ridge	63	10	38.6	1.88	Little Mountain <sup>†</sup>	78	25	57.6	0.86
Ripley	68	11	42.2	2.02	Longshore <sup>†</sup>	85	22	54.2	2.71
Rittman	63	9	38.2	2.20	McCormick <sup>†</sup>	74*	24	52.7	1.28
Rush Creek	.....	.....	.....	Martins	.....	.....	.....	1.66	
Sharon Center	.....	.....	.....	Mount Carmel <sup>†</sup>	.....	.....	.....	1.75	
Shenandoah	67	9	38.2	1.87	Nichols <sup>†</sup>	59	16	49.0	1.48
Sidney <sup>†</sup>	.....	.....	.....	Pinopolis <sup>†</sup>	75	28	53.9	1.63	
Springboro	.....	.....	.....	Kingstreet <sup>†</sup>	79	35	59.9	1.47	
Spring Valley	.....	.....	.....	Longshore <sup>†</sup>	78	24	53.4	1.15	
Stoutsburg	.....	.....	.....	Longshore <sup>†</sup>	85	25	57.6	2.71	
Sylvania	67	10	37.6	2.93	Little Mountain <sup>†</sup>	78	25	57.6	2.71
<i>Pennsylvania.</i>									
Altoona	63	20	44.9	1.48	Longshore <sup>†</sup>	85	25	57.6	2.71
Aqueduct <sup>†</sup>	59	19	39.4	Longshore <sup>†</sup>	85	25	57.6	2.71	
Beaver Dam <sup>†</sup>	.....	.....	.....	Longshore <sup>†</sup>	85	25	57.6	2.71	
Blooming Grove <sup>†</sup>	57	18	34.8	Longshore <sup>†</sup>	85	25	57.6	2.71	
Bloomsburg	55	19	40.0	Longshore <sup>†</sup>	85	25	57.6	2.71	
Blue Knob	58	6	34.6	Longshore <sup>†</sup>	85	25	57.6	2.71	
Brookville <sup>†</sup>	.....	.....	.....	Longshore <sup>†</sup>	85	25	57.6	2.71	
Browns Lock	.....	.....	.....	Longshore <sup>†</sup>	85	25	57.6	2.71	
Clarion <sup>†</sup>	61	15	38.0	Longshore <sup>†</sup>	85	25	57.6	2.71	
Coatesville <sup>1</sup>	66	15	39.4	Longshore <sup>†</sup>	85	25	57.6	2.71	
Confluence <sup>†</sup>	.....	.....	.....	Longshore <sup>†</sup>	85	25	57.6	2.71	
Dickinson <sup>†</sup>	67	13	38.9	Longshore <sup>†</sup>	85	25	57.6	2.71	
Driftwood <sup>†</sup>	63	12	37.6	Longshore <sup>†</sup>	85	25	57.6	2.71	
Georgetown <sup>†</sup>	60	20	44.9	Longshore <sup>†</sup>	85	25	57.6	2.71	
Greenwood <sup>†</sup>	74	24	52.3	Longshore <sup>†</sup>	85	25	57.6	2.71	
Greenwood <sup>†</sup>	74	24	52.3	Longshore <sup>†</sup>	85	25	57.6	2.71	
Hardeeville <sup>†</sup>	79	27	57.0	Long					

*Meteorological record of voluntary observers, &c.—Continued.*

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
Texas—Cont'd.	°	°	°	Ins.	Vermont—Cont'd.	°	°	°	Ins.
Brenham † . . . . .	85	30	59.6	10.47	Vernon * 3 . . . . .	56	8	33.0	1.6
Brownwood † . . . . .	85	25	50.4	1.62	Wells . . . . .	55	8	33.9	1.3
Camp Eagle Pass . . . . .	89	26	57.6	0.19	Woodstock . . . . .	59	3	33.1	1.5
Childress † . . . . .	84*	18	45.0	T.	Virginia . . . . .				
Coldwater † . . . . .				1.38	Abingdon † . . . . .				1.71
College Station . . . . .	83	29	56.8	5.59	Alexandria 1 . . . . .	67	20	43.4	4.30
Columbia † . . . . .	86	30	61.6	2.83	Ashland † . . . . .	75	14	45.7	2.71
Corsicana † . . . . .	87	24	55.3 <sup>d</sup>	3.72	Avon † . . . . .	56	8	46.0	2.34
Corsicana † . . . . .	82	22	51.4	4.29	Bedford City † . . . . .	70	14	46.8	1.50
Cuero † . . . . .	87	32	61.2	4.51	Big Stone Gap † . . . . .	67	8	39.6	3.1
Dallas b † . . . . .	84	23	51.1	3.30	Birdsboro † . . . . .	70	25	49.2	7.1
Devine . . . . .	86	31	57.4	3.50	Blacksburg † . . . . .	66	10	41.6	0.74
Duval * 1 . . . . .	88	30	58.6	4.20	Buchanan † . . . . .				1.5
Eagle Pass † . . . . .				0.06	Cape Charles † . . . . .	77*	24	48.3	8.1
Eastland * † . . . . .	76	32	51.0	2.13	Charlottesville . . . . .	73	14	44.9	2.5
Flower Bluff . . . . .	88	35	64.2	1.29	Christiansburg † . . . . .				1.71
Forestburg † . . . . .	84	21	50.2	1.49	Clarksville † . . . . .				1.71
Fort Brown † . . . . .	89	44	63.8	2.53	Dale Enterprise † . . . . .	67	10	39.7	2.41
Fort Clark . . . . .	86	30	58.2	0.28	Danville † . . . . .				1.5
Fort Hancock . . . . .	85	14	43.6	0.00	Falls Church † . . . . .				4.8
Fort McIntosh . . . . .	86	35	61.6	0.20	Fredericksburg † . . . . .	73	16	43.4	3.9
Fort Ringgold † . . . . .	89	34	62.8	0.22	Hampton . . . . .	72	23	49.6	3.1
Fredericksburg † . . . . .	84*	27 <sup>d</sup>	52.1 <sup>e</sup>	3.99	Hot Springs 4 . . . . .	70	11	49.2	2.0
Gainesville † . . . . .	88	19	47.0	2.09	Irwin † . . . . .	70	16	45.1	3.5
Graham † . . . . .	86	22	50.4	1.48	Lexington † . . . . .	72	10	41.2	1.9
Grape Vine † . . . . .	85	21	53.4	2.74	Marion † . . . . .	66	11	43.0	1.7
Hallettsville † . . . . .	86	33	55.8	4.56	Nottoway . . . . .	77	13	45.4	3.4
Hartley † . . . . .	72	9	41.8	0.00	Petersburg † . . . . .	78	19	48.5	4.00
Hearne † . . . . .	88	28	55.1	5.33	Richmond a † . . . . .	76	15	47.3	3.5
Highland . . . . .	86	20 <sup>d</sup>	51.3 <sup>d</sup>	2.39	Richmond b † . . . . .				3.1
Houston † . . . . .	83	32	59.0	4.90	Riverton † . . . . .				2.9
Huntsville † . . . . .	92	32	58.8	5.50	Salem † . . . . .	69	18	45.7	1.68
Kent . . . . .				0.94	Saluda † . . . . .	78	20	45.2	6.4
Laredo † . . . . .				0.74	Spottsville † . . . . .	73	18	46.3	2.5
Llano * † . . . . .	84	28	54.6	3.02	Stanardsville † . . . . .	72	15	44.1	2.5
Longview † . . . . .	84	29	55.4	6.42	Staunton † . . . . .	68	12	41.6	2.00
Luling † . . . . .	86	32	58.8	3.02	Stephens City † . . . . .	65	20	41.5	2.2
McGregor † . . . . .	75	26	44.2	3.86	Warsaw † . . . . .	73	19	45.5	2.6
Marshall † . . . . .	82	27	54.2	9.55	Woodstock † . . . . .				2.6
Menardville * † . . . . .	88	28	49.5	0.88	Wytheville † . . . . .	63	13	41.2	1.70
Mesquite † . . . . .	85	23	51.1	3.70	Washington . . . . .				
Mountain Spring † . . . . .	85	22	51.4	2.37	Aberdeen † . . . . .	64	27	43.4	14.3
New Braunfels † . . . . .	84	33	56.8	3.35	Anacortes . . . . .				
Orange † . . . . .	82	28	59.8	6.06	Blaine † . . . . .	52	20	38.0	8.1
Panter * † . . . . .	84 <sup>d</sup>	24 <sup>d</sup>	51.6 <sup>d</sup>	2.73	Bridgeport † . . . . .	65	9	33.2	1.5
Parish † . . . . .	82	24	53.2	4.23	Chehalis † . . . . .	59	23	41.9	9.80
Rio Grande City † . . . . .				0.39	Colfax † . . . . .	59	20	35.2	3.90
Roby † . . . . .	86	21	47.4	0.55	Crystal Springs * 1 . . . . .	58	36	46.1	
Rockport * † . . . . .	80	40	63.9	1.30	Davenport † . . . . .	64	2	33.4	1.30
Round Rock † . . . . .	88	34	58.4	1.31	Dayton † . . . . .	61	20	39.1	4.45
San Marcos † . . . . .				4.73	East Sound † . . . . .	53	29	41.1	7.30
Sherman † c . . . . .	80	24	53.4	2.70	Elbe . . . . .				15.1
Silver Falls † . . . . .	85	19	49.1	0.10	Ellensburg † . . . . .	59	9	33.6	1.68
Stella * † . . . . .	87	30	62.1	4.48	Ferry † . . . . .	58	22	43.0	13.6
Sulphur Springs * 1 . . . . .	86	22	51.4	6.22	Fort Simcoe . . . . .	66	20	38.0	2.50
Temple † . . . . .	82	26	53.4	4.00	Fort Spokane . . . . .	57	2	32.5	3.0
Victoria * † . . . . .	82 <sup>c</sup>	42 <sup>c</sup>	62.4 <sup>c</sup>	3.20	Fort Townsend 1 . . . . .	55	25	40.1	5.3
Waco † . . . . .	84	27	55.0	3.36	Lakeside † . . . . .	57	17	34.6	2.30
Weatherford † . . . . .	82	24	51.9	3.02	Madrone * 1 . . . . .	58	26	41.3	9.20
Wichita Falls † . . . . .	98			0.21	Moxee Valley † . . . . .	66	10	35.6	2.00
<i>Utah.</i>									
Blue Creek # . . . . .	66	10	35.2	0.15	Ogallala † . . . . .	53	28	41.0	6.12
Castle Gate † . . . . .	59	10	35.1	0.37	Pine Hill * 1 . . . . .	60	19	39.5	6.02
Cisco † . . . . .	67	10	34.7	1.11	Pomeroy † . . . . .	60	22	40.4	3.44
Corinne * 6 . . . . .	72	15	35.0	1.24	Pullman † . . . . .	55	19	35.0	3.53
Fillmore † . . . . .	86	3	38.9	1.11	Rosalia † . . . . .	54	15	33.8	3.53
Fort Du Chesne † . . . . .	62	1	32.9	0.24	Silver Creek * 1 . . . . .	59	22	44.2	1.14
Green River † . . . . .	67	6	34.0	0.20	Tacoma † . . . . .	57	24	41.1	9.92
Grouse Creek * † . . . . .	58	6	29.8	1.60	Union City * 1 . . . . .	52	26	39.8	13.02
Heber † . . . . .	68	3	32.5	1.60	Vashon † . . . . .	60	17	36.7	7.1
Kelton * 8 . . . . .	56	5	35.7	0.56	Waterville † . . . . .	55	1	29.7	2.53
Koosharem . . . . .	56	3	29.3	0.49	West Ferndale . . . . .	52	20	37.8	8.34
Lake Park . . . . .	60	13	37.2	1.38	West Virginia . . . . .				
Levan † 2 . . . . .				33.6	Bluesfield † . . . . .	66	9	42.6	1.92
Loat † . . . . .	59	8	29.8	1.08	Buckhannon a † . . . . .	64	10	40.0	2.55
Logan † . . . . .	62	10	35.8	0.92	Central Station † . . . . .	66	10	41.4	2.62
Loosee † . . . . .	61	12	35.5	0.40	Charleston a † . . . . .	62	16	40.4	2.41
Moab † . . . . .	70	15	36.8	1.46	Elkhorn † . . . . .	67	11	44.4	1.68
Mount Carmel * 1 . . . . .	61	11	35.3	0.25	Ella † . . . . .	64	14	40.4	1.86
Ogden a * 8 . . . . .	63	24	40.0	1.45	Fairmont † . . . . .				2.45
Ogden b * 1 . . . . .	65	21	39.0	1.26	Glenville † . . . . .	67	11	41.8	3.22
Parowan † . . . . .	64	8	36.2	1.38	Grafton † . . . . .	67	10	41.4	2.54
Promontory * 8 . . . . .	64	0	35.7	1.40	Harpers Ferry † . . . . .				1.86
Provo City † 2 . . . . .				34.5	Hinton † . . . . .				1.20
Randolph † . . . . .	64	-13	29.4	0.63	Marionton † . . . . .	64	3	38.0	1.99
Richfield † . . . . .	63	7	35.5	0.02	Martinsburg † . . . . .	62	16	39.6	2.68
Saint George † . . . . .	76	17	45.2	0.05	Morgantown a † . . . . .				2.38
Scofield † . . . . .	61	-16	25.4	0.22	Morgantown b † . . . . .	72	15	40.3	2.26
Singletone * † . . . . .	60	2	33.1	0.75	New Martinsville † . . . . .	70	11	42.7	1.80
Snowville † . . . . .	59	3	32.7	1.38	Nuttallburg † . . . . .	72	11	48.1	2.10
Soldier Summit † . . . . .	54	1	25.4	0.71	Parkersburg † . . . . .	64	12	41.5	2.07
Terrace * 8 . . . . .	56	10	37.1	0.70	Philipps † . . . . .				2.16
Thistle † . . . . .				1.02	Pleasant Hill * 1 . . . . .	70	8	36.9	3.10
<i>Vermont.</i>									
Brattleboro a . . . . .	61	8	36.6	1.89	Point Pleasant † . . . . .	74	14	42.4	2.26
Burlington † . . . . .	57	14	39.0	1.41	Rowlesburg † . . . . .				1.96
Cornwall . . . . .				1.00	Sandyville * 1 . . . . .	68	7	40.3	1.80
Enosburg Falls † . . . . .	58	9	34.5	1.76	Spencer † . . . . .	74	9	46.1	0.30
Hartland † . . . . .	58	4	32.4	2.21	Weston a † . . . . .	68	13	41.6	2.70
Irasburg † . . . . .	57	2	31.0	2.17	Weston b † . . . . .				
Jacksonville . . . . .	58	-1	30.0	2.01	Wheeling a † . . . . .	66	16	43.6	1.70
Norwich * 8 . . . . .	51 <sup>k</sup>	5	31.2	1.55	Wheeling b † . . . . .				
Simonsville . . . . .	52	0	29.6	....	Wisconsin . . . . .				
Strafford * † . . . . .	54	9	33.7	1.75					

*Meteorological record of voluntary observers, &c.—Continued.*

*Reports received too late to be used in general discussion of weather for November, 1898.*

<i>Arizona.</i>					<i>Maryland.</i>			*	
Lochiel <sup>b</sup> †	73	29	47.5	0.63	McDonogh	64	19	43.2	2.69
<i>Connecticut.</i>					<i>Minnesota.</i>				
Southington <sup>a</sup> †	59	16	38.3	2.65	Dassel <sup>b</sup> †	64	14	29.1	.....
<i>Idaho.</i>					<i>Montana.</i>				
American Falls <sup>a</sup> †	60	— 3	32.2	.....	Powder River <sup>a</sup> †	66	— 13	27.5	0.85
Garden Valley <sup>a</sup> †	51	13	35.1	4.44	<i>New Hampshire.</i>				
Moscow <sup>a</sup> †	55	19	34.6	2.10	Littleton <sup>a</sup> †	55	5	31.9	0.55
<i>Iowa.</i>					<i>North Carolina.</i>				
Fayette <sup>a</sup> †	73	— 9	32.5	1.40	Columbus	70	18	44.8	4.11
Mount Ayr <sup>a</sup> †	.....	.....	.....	0.63	Washington <sup>a</sup> †	60	21	53.7	4.00
<i>Kansas.</i>					<i>West Virginia.</i>				
Mankato <sup>a</sup> †	75	9	37.3	2.35	Kingwood <sup>b</sup> †	64	7	37.8	1.61
Olathe <sup>a</sup> †	76	9	41.2	1.99	<i>Wyoming.</i>				
Pauline	79	17	41.4	1.20	Lander	60	— 5	34.1	0.53

*Received too late for publication in October, 1893.*

<i>Arizona.</i>							
Ariz. Canal Co. Dam	98	52	78.4	0.43			
Peoria †.....	92	49	68.5	0.15			
Rye †.....				0.15			
<i>Arkansas.</i>							
Winslow * 1.....	77	40	58.6	2.84			
<i>California.</i>							
Anderson * 1.....	89	35	57.2	0.75			
Davisville b.....	89	40	64.8	0.04			
Deep Creek.....				1.19			
Green Valley.....				1.06			
Little Bear Valley.....				1.49			
Lower Holcomb Valley.....				0.65			
Morris House.....				2.44			
Riverside a†.....	97	40	61.8	0.49			
Squirrel Inn.....				1.90			
Tunnel No. 2.....				1.10			
<i>Colorado.</i>							
Amherst †.....				0.27			
Fort Collins †.....	82	12	49.0	0.10			
Garnett.....				0.00			
La Porte.....				0.03			
<i>Connecticut.</i>							
Southington * 1.....	76	26	52.6	5.60			
<i>Illinois.</i>							
McLeansboro * 1.....	86	24	55.6	2.35			
<i>Iowa.</i>							
Atlantic * †.....	96	21	50.9	0.36			
<i>Iowa—Cont'd.</i>							
Fayette †.....				83	15	50.5	3.19
<i>Kentucky.</i>							
Shelbyville f.....				85	21	55.2	6.08
<i>Montana.</i>							
Glasgow †.....				73	10	42.7	....
Powder River †.....				76	15	43.0	1.66
<i>Nebraska.</i>							
Ewing †.....							0.21
Lamar.....							0.00
Tecumseh †.....				85	25	55.8	0.78
<i>New Mexico.</i>							
Estalina Springs f.....				76	24	....	0.14
<i>New York.</i>							
Central Park, N. Y.				78	34	56.2	5.30
<i>North Carolina.</i>							
Washington †.....				85 <sup>d</sup>	33 <sup>d</sup>	63.4 <sup>c</sup>	4.72
<i>Ohio.</i>							
Arcanum.....							2.47
<i>South Dakota.</i>							
Castlewood †.....				68	5	36.1	0.81
Millbank †.....				84	12	46.6	0.78
Watertown †.....				77	14	....	0.20
Weisington †.....							0.40
<i>Texas.</i>							
San Antonio.....				95	43	70.0	0.06
<i>Mexico.</i>							
Topolobampo * 3.....				91	70	78.0	0.00

\*Extremes of temperature from observed readings of dry thermometer,

<sup>†</sup> Weather Bureau instruments.  
A numeral following the name of

A numeral following the name of a station indicates which the mean temperature was obtained, thus:

<sup>1</sup> Mean of 7 a. m.  $\pm$  2 p. m.  $\pm$  2 p. m.

<sup>2</sup> Mean of 8 a. m. + 8 p. m. ÷ 2.

<sup>3</sup> Mean of 7 a. m. + 7 p. m. ÷ 2.

<sup>4</sup> Mean of 6 a. m. + 6 p. m. + 2.

<sup>5</sup> Mean of 7 a. m. + 2 p. m. + 2.  
<sup>6</sup> Mean from readings at various hours.

<sup>6</sup> Mean from readings at various hours.  
<sup>7</sup> Mean from hourly readings of the

<sup>a</sup> Mean of 7 a. m.  $\pm$  2 P. M.  $\pm$  2 P. M.

Mean of 7 a. m. + 2 p. m. + 9 p. m.

The absence of a numeral indicates that the mean temperature has been obtained from daily readings of the maximum and minimum thermometers.

An italic letter following the name of a station, as "Livingston a," "Livingston b," indicates that two or more observers, as the case may be, are reporting from the same station. A small Roman letter following the name of a station, or in figure columns, indicates the number of days missing from the record; for instance, "i" denotes 14 days missing.

No note is made of breaks in the continuity of temperature records when the same do not exceed two days. All known breaks, of whatever duration, in the precipitation record receive appropriate notice.

Corrections: California, Tulare, October, 1893, make precipitation T, instead of 0.0. Ohio, Athens, August, 1893, strike out all data. Tennessee, Ashwood, June, 1893, make maximum temperature 87 instead of 77. Texas, Menardville, April, 1893, make maximum temperature 99 instead of 69. Utah, Scofield, February, 1893, make minimum temperature -32 instead of 32.

**Notes.**—The following changes have been made in names of stations: Colorado, Table Rock, changed to Divide Experimental Station. North Dakota, Joslyn, changed to McKinney. Washington, Chelan, changed to Lakeside.

#### Data from Canadian stations for the month of November, 1893.

Station.	Pressure.			Temperature.		Precipitation.		Prevailing direction of wind.
	Mean not reduced.	Mean reduced.	Departure from normal.	Mean.	Departure from normal.	Total.	Departure from normal.	
Saint Johns, N. F.	Inches.	Inches.	Inches.	o	o	Inches.	Inches.	ne.
Sydney, N. S.	29.80	29.95	+ .02	37.8	+ 0.8	8.37	.....	sw.
Grindstone, G. S. L.	29.92	29.98	+ .02	38.6	+ 1.1	4.99	- 0.62	n.
Sandy Point, N. F.	29.88	29.91	.....	36.5	.....	2.73	.....	w.
Halifax, N. S.	29.90	30.03	+ .03	37.8	- 0.2	3.63	- 1.59	n.
Grand Manan, N. B.	29.97	30.02	.....	39.0	.....	2.29	- 1.94	w.
Yarmouth, N. S.	29.96	30.04	.00	39.2	- 0.8	2.21	- 0.73	nw.
Saint Andrews, N. B.	29.94	29.99	.....	36.2	.....	1.67	- 1.55	nw.
Charlottetown, P. E. I.	29.94	29.98	.....	36.4	.....	3.00	- 0.73	w.

#### Data from Canadian stations—Continued.

Station.	Pressure.		Temperature.		Precipitation.		Prevailing direction of wind.
	Mean not reduced.	Mean reduced.	Mean.	Departure from normal.	Mean.	Departure from normal.	
Chatham, N. B.	Inches.	Inches.	Inches.	o	o	Inches.	Inches.
Father Point, Que.	29.96	29.95	.....	- .01	30.4	+ 1.4	1.61
Quebec, Que.	29.66	30.00	.....	- .01	30.7	+ 1.7	1.48
Montreal, Que.	29.78	30.00	.....	- .02	34.0	+ 1.5	1.44
Rocklife, Ont.	29.42	29.95	.....	- .05	28.6	- 0.4	1.20
Kingston, Ont.	29.70	30.02	.....	- .02	35.4	+ 0.9	0.85
Toronto, Ont.	29.62	30.01	.....	- .04	35.2	- 0.3	0.51
White River, Ont.	28.54	29.96	.....	.....	21.4	.....	0.04
Port Stanley, Ont.	29.38	30.03	.....	- .02	37.0	.....	s.
Saugeen, Ont.	29.24	29.97	.....	- .05	35.8	+ 0.3	1.52
Parry Sound, Ont.	29.24	29.96	.....	- .06	33.4	+ 1.4	1.35
Port Arthur, Ont.	29.18	29.92	.....	- .09	24.2	+ 0.3	1.47
Winnipeg, Man.	29.12	30.01	.....	- .06	14.0	- 4.0	1.35
Minnedosa, Man.	28.08	29.99	.....	- .05	14.4	- 2.1	nw.
Qu'Appelle, Assiniboina.	27.64	30.03	.....	- .06	13.8	- 5.7	0.20
Medicine Hat, Assiniboina	27.64	30.06	.....	+ .02	19.6	- 7.4	0.90
Swift Current, Assinibona	27.35	30.08	.....	- .02	16.6	- 5.4	0.19
Calgary, Alberta	26.35	30.02	.....	+ .02	17.9	- 8.1	0.85
Prince Albert, Sask.	26.40	30.02	.....	.....	11.1	.....	e.
Edmonton, Alberta	27.60	30.06	.....	+ .08	17.6	- 9.4	0.32
Battleford, Saskatchewan	28.20	30.04	.....	.....	13.4	.....	nw.
Spences Bridge, B. C.	29.23	30.09	.....	.....	29.4	.....	e.
Sable Island	.....	.....	.....	.....	.....	.....	.....
Hamilton, Bermuda	29.95	30.11	.....	+ .06	67.1	.....	ne.
October, 1893.	.....	.....	.....	.....	5.27	.....	.....
Edmonton, Alberta	27.56	29.96	.....	.....	32.8	- 7.2	0.04
September, 1893.	.....	.....	.....	.....	57.8	.....	0.53
Sable Island	29.92	.....	.....	.....	4.92	.....	w.

*Climatological data for November, 1893—Weather Bureau Stations.*

Districts and stations.	Elevation above sea-level, feet.	Length of record, years.	Pressure, in inches.		Temperature of the air, in degrees Fahrenheit.						Humidity and precipitation.				Wind.																	
			Mean pressure, 8 a. m. and 8 p. m. in. + .2		Departure from normal.			Mean max. and min. + .2			Departure from normal.			Maximum.	Mean minimum.	Greatest daily range.	Mean temperature of the air-point.	Mean relative humidity per cent.	Precipitation, in inches.	Departure from normal.	Days with .01, or more.	Total move- ment, miles.	Prevailing direc- tion.	Maximum velocity.								
			Mean reduced.	Date.	Mean max.	Mean min.	Date.	Mean max.	Mean min.	Date.	Mean max.	Mean min.	Date.	Mean max.	Mean min.	Date.	Mean max.	Mean min.	Date.	Mean max.	Mean min.	Date.	Mean max.	Mean min.	Date.	Mean max.	Mean min.	Date.				
<i>New England.</i>																																
Eastport	76	21	29.94	30.02 + .05	37.8	-0.6	41.2	-0.6	34.3	12.27	32.23	29.29	72	8.11	-1.9	8.99	-3.6	8.234	SW.	52	se.	22	9.14	7.5	57.8	39.8	1880	29.0	1873			
Portland	103	22	29.91	30.05 + .07	39.5	-1.7	58	-0.7	50	15.27	31.23	30.30	73	1.83	-2.4	6.5402	s.	36	e.	22	8.4	4.7	13.2	1877	28.9	1873						
Northfield	872	7	29.70	30.07 + .03	32.88	-1.7	60	-0.2	58	2.42	2.27	24.32	25	78	1.83	-1.1	6.202	s.	36	n.	22	8.9	6.7	35.8	1889	31.6	1870					
Boston	125	24	29.95	30.09 + .06	42.2	-0.5	68	3.49	20.27	35.35	27	31	69	1.83	-2.9	8.124	SW.	39	se.	23	8.1	5.3	44.6	1880	32.8	1873						
Nantucket	14	8	30.03	30.10 + .04	43.6	-1.0	64	3.48	27.27	39.21	30	74	1.31	-2.2	8.725	nw.	48	sw.	17	9.11	6.2	6.2	47.1	1881	43.1	1873						
Woods Hole	16	8	30.03	30.10 + .04	43.9	-0.4	63	3.49	24.27	38.20	24	2.94	-2.2	12.224	nw.	48	sw.	17	9.11	9.5	4.46.9	1881	38.0	1873								
Vineyard Haven	8	8	30.03	30.10 + .04	43.6	-0.6	62	3.52	23.27	39.24	24	2.92	-0.7	12.224	nw.	50	ne.	10	9.15	6.5	5.047	8.1881	44.1	1882								
Block Island	27	14	30.08	30.11 + .05	44.8	-0.9	62	3.50	27.26	39.19	24	3.83	-7.7	12.566	nw.	50	ne.	14	8.10	4.5	4.2	1885	42.7	1882								
Narragansett Pier																																
New Haven	107	21	29.98	30.10 + .03	41.0	-0.9	59	2.48	19.27	34.28	28	3.2	73	2.50	-1.4	6.587	sw.	45	se.	28	9.13	5.4	5.3	45.3	1877	39.9	1882					
New London	45	23	30.07	30.12 + .06	41.8	-1.0	61	3.49	21.27	35.27	34	76	2.42	-1.7	5.903	w.	46	se.	28	11.11	8.5	5.3	45.8	1880	33.7	1873						
<i>Md. Atlantic States.</i>																																
Albany	85	20	30.01	30.10 + .03	38.7	-1.5	58	2.46	16.27	31.25	25	37	78	0.91	-2.2	5.360	s.	38	se.	28	3.16	11.6	4.444	1883	31.8	1875						
New York, N. Y.	185	24	29.92	30.12 + .04	44.2	-1.5	62	3.51	26.27	38.21	24	34	73	2.71	-0.9	7.769	sw.	41	w.	9.12	9.11	5.4	4.8	3.1870	37.3	1873						
Harrisburg	377	6	29.72	30.15 + .04	40.4	-1.0	59	9.47	22.27	34.26	33	2.54	7.0	4.820	w.	36	w.	15	10.10	5.2	4.23	6.1888	40.4	1863								
Philadelphia	117	23	30.01	30.14 + .03	44.0	-0.2	62	2.50	24.20	38.24	24	3.95	8.8	7.552	nw.	36	se.	28	8.14	8.5	5.6	45.0	1877	38.0	1873							
Atlantic City	53	20	30.08	30.13 + .03	45.0	-0.9	65	18.51	20.20	39.27	39	80	2.19	-1.3	9.014	nw.	40	se.	28	7.12	6.5	4.48	8.1881	40.5	1875							
New Brunswick																																
Baltimore	179	23	29.94	30.13 + .02	43.6	-3.5	62	18.51	22.26	37.26	34	73	3.75	-0.6	5.122	nw.	32	se.	27	15.11	4.1	4.849	1.1881	40.6	1873							
Washington, D. C.	112	24	30.03	30.15 + .02	43.6	-2.8	66	18.52	21.26	35.35	34	74	4.30	-1.4	4.818	nw.	28	13	6.11	5.048	8.1880	40.2	1880									
Cape Henry	20	24	30.01	30.14 + .03	50.8	-1.3	63	4.57	30.25	45.44	25	50	7.43	-3.5	4.818	nw.	24	13	6.11	5.048	8.1880	40.2	1880									
Lynchburg	685	23	29.42	30.18 + .04	45.2	-3.0	75	4.55	16.26	35.34	35	75	1.41	-1.7	3.210	ne.	25	nw.	24	14.10	9.10	5.051	4.1890	40.8	1872							
Norfolk	57	23	30.07	30.14 + .02	54.8	-1.8	74	4.57	25.25	44.44	27	43	8.77	-0.6	3.903	ne.	34	se.	27	13.10	9.10	5.655	0.1881	46.0	1872							
<i>S. Atlantic States.</i>																																
Charlotte	773	16	29.31	30.10 + .04	48.7	-2.5	74	3.58	21.25	40.30	37	71	2.44	-0.8	5.101	sw.	24	s.	20	14.14	9.1	4.555	4.1890	45.1	1884							
Hatteras	11	13	30.10	30.11 + .00	55.8	-0.4	71	3.51	21.25	40.31	37	51	8.32	-3.2	11.095	ne.	24	nw.	11.11	6.11	5.595	9.1881	52.3	1872								
Kittyhawk																																
Raleigh	9	19	30.05	30.09 + .01	53.0	-0.7	72	4.58	28.25	48.22	47	81	2.45	-2.0	12.628	ne.	58	ne.	13	12.13	13.12	5.47.5	9.1888	50.1	1882							
Southport	388	7	29.72	30.15 + .02	48.8	-1.0	74	3.51	20.25	49.39	33	39	7.95	-0.2	11.260	ne.	58	ne.	8.11	12.12	5.3	5.81.8	1872	46.1	1867							
Wilmington	34	19	30.08	30.11 + .01	54.4	0.0	70	2.62	24.25	47.25	51	99	2.00	-1.0	7.199	ne.	40	sw.	27	11.11	10.10	4.58.8	0.1881	51.0	1882							
Charleston	78	23	30.04	30.13 + .00	55.2	-1.0	76	2.63	25.25	47.30	47	82	1.71	-0.9	13.470	ne.	40	ne.	8.11	12.12	4.476	0.1881	52.1	1872								
Columbia	52	23	30.09	30.13 + .01	57.8	-1.1	78	3.61	25.25	49.23	50	23	1.36	-1.9	5.877	sw.	28	se.	17	15.15	15.15	5.3	5.81.8	1872	53.5	1880						
Augusta	209	22	29.95	30.19 + .03	53.4	-2.0	78	2.61	25.25	49.34	43	76	1.98	-1.4	4.129	ne.	24	nw.	24	11.11	11.11	4.45.8	1890	47.5	1872							
Savannah	98	23	30.04	30.15 + .00	57.8	-1.4	80	3.61	21.25	50.28	50	81	2.31	-0.1	5.928	nw.	32	nw.	24	8.16	6.5	5.261	5.1890	53.3	1872							
Jacksonville	43	23	30.08	30.13 + .01	62.0	-1.2	84	70.5	0.4	57.77	53.33	53	82	1.76	-0.8	4.800	ne.	31	se.	27	9.8	8.13	5.065	6.1872	56.5	1872						
<i>Florida Peninsula.</i>																																
Jupiter	28	6	30.05	30.08 + .00	72.5	-0.5	85	23.78	51.25	67.21	67	87	5.01	-0.1	7.520	nw.	33	se.	27	15.15	14.14	3.9	3.7	7.1890	69.6	1892						
Key West	24	24	30.06	30.08 + .02	74.6	-0.4	83	21.78	64.25	71.12	68	80	0.48	-2.1	7.405	ne.	34	nw.	27	12.12	12.12	6.4	7.78.5	1880	71.6	1885						
Micco																																
Tampa	36	30	30.07	30.11 + .01	67.2	-0.5	85	4.76	40.25	58.30	60	85	2.88	-0.3	8.520	nw.	40	nw.	27	11.16	3.3	4.619	0.1890	63.0	1892							
Titusville	44	7	30.07	30.11 + .01	66.4	-1.1	83	22.74	43.16	59.28	60	85	3.45	-0.8	8.520	nw.	40	nw.	27	11.16	3.3	4.619	0.1890	63.0	1892							
<i>Eastern Gulf States.</i>																																
Atlanta	1,131	16	28.96	30.18 + .01	50.8	-1.6	74	3.59	21.25	43.28	39	79	1.11	-2.9	7.468	ne.	36	se.	27	15.3	12.12	4.957	6.1890	47.7	1880							
Pensacola	56	15	30.05	30.12 + .01	59.6	-0.8	78	4.68	32.24	51.28	50	76	2.53	-1.9	6.549	ne.	50	se.	27	15.7	8.12	4.62.8	1890	55.6	1880							
Mobile	57	23	30.07	30.14 + .00	57.7	-1.0	77	21.67	32.24	49.39	50	85	3.54	-0.6	7.532	ne.	37	se.	27	15.8	12.12	5.52.8	1873	54.0	1872							
Montgomery	257	22	29.98	30.14 + .02	55.6	-1.1	78	2.66	27.25	45.36	44	75	2.65	-1.0	11.435	ne.	36	ne.	27	11.11	12.12	4.325	0.1872	52.5	1872							
Meridian	355	23	29.75	30.14 + .04	52.6	-1.7	78	3.63	23.25	49.39	44	78	4.46	-0.9	9.047	ne.	32	s.	27	10.10	10.10	4.8	4.83.8	1872	51.0	1872						
Vicksburg	254	23	29.84	30.11 + .05	55.1	-2.3	78	3.64	30.25	46.28	44	73	4.62	-0.3	9.170	e.	24	s.e.	27	14.14	7.14	4.560	4.1890	46.4	1880							
New Orleans	54	23	30.07	30.13 + .01	60.3	-1.4	80	6.68	36.24	53.27	52	83	6.24	+ 1.8	6.291	ne.	36	se.	26	14.10	6.10	4.1	4.56.5	1875	56.3	1880						
Port Eads	56	23	30.03	30.15 + .01	56.1	-1.7	82	4.72	44.25	50.26	33	79	3.83	-0.1	6.205	ne.	30	sw.	28	9.12	8.12											

## Climatological data for November, 1893—Weather Bureau Stations—Continued.

Districts and stations.	Elevation above sea-level, feet.	Length of record, years.	Pressure, in inches.		Temperature of the air, in degrees Fahrenheit.				Humidity and precipitation.				Wind.				Mean temperature data since opening of station.														
			Mean pressure, 8 a.m. and 8 p.m. + 2.	Mean reduced.	Departure from normal.	Mean max. and min. + 2.	Departure from normal.	Maximum.	Minimum.	Mean minimum.	Greatest daily range.	Mean temperature of the dew-point.	Mean relative humidity per cent.	Precipitation, in inches.	Departure from normal, or more.	Total movement, miles.	Maximum velocity.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Highest for month.	Lowest for month.	Year.								
			Mean.	Mean.	Mean.	Date.	Date.	Date.	Date.	Mean.	Range.	Mean.	Mean.	Days with .01, or more.	Miles per hour.	Direction.	Date.	Year.	Year.	Year.	Year.										
<i>Up. Miss. Val.—Con.</i>																															
Davenport.....	613	22	29.39	30.07	-.02	36.2	-3.1	71	1	44	4	24	28	30	24	67	2.56	+ 0.6	7	6,837	nw.	37	sw.	22	11	8	5.042-3	1878	30.7	1880	
Des Moines.....	869	16	29.12	30.09	-.01	35.8	-2.2	72	1	46	1	30	26	39	22	66	1.51	-0.4	0	5,205	nw.	34	sw.	16	15	11	4.4142-2	1878	27.9	1880	
Dubuque.....	651	21	29.32	30.05	-.03	34.6	-2.4	72	1	43	1	24	26	36	25	66	2.03	-0.8	0	4,085	nw.	24	nw.	21	12	8	5.039-8	1890	27.3	1880	
Keokuk.....	613	23	29.40	30.08	-.01	35.9	-2.4	74	1	49	7	24	38	36	26	66	2.29	+ 0.3	6	5,572	nw.	32	sw.	20	11	7	5.3244-2	1890	31.5	1880	
Cairo.....	359	23	29.70	30.13	+.02	46.1	-2.3	72	1	54	19	24	38	31	36	73	2.75	-1.5	5	7,472	nw.	38	sw.	29	16	6	4.0521-1	1890	37.2	1880	
Springfield, Ill.....	644	15	29.39	30.10	-.01	40.0	-3.2	71	1	51	50	24	30	38	28	68	1.57	-1.3	5	7,058	s.	28	sw.	29	13	5	4.845-6	1885	32.3	1880	
Hannibal.....	534	23	29.49	30.08	....	40.4	-2.1	75	1	51	9	24	30	39	28	67	1.25	....	6	5,255	sw.	36	sw.	29	13	6	4.545	1880	31.9	1880	
Saint Louis.....	571	23	29.48	30.10	-.02	44.1	-2.1	73	1	52	15	24	36	37	31	87	1.38	-1.5	4	7,937	se.	36	nw.	29	10	5	4.149-6	1883	31.9	1880	
<i>Missouri Valley.</i>																															
Columbus.....	963	6	29.05	30.11	-.01	41.0	-2.3	75	1	51	14	24	31	34	28	64	1.28	-1.1	3	6,290	se.	36	sw.	16	15	10	5.045-6	1890	39.0	1891	
Springfield, Mo.....	1,356	7	28.64	30.11	....	43.1	-3.1	72	1	53	14	24	34	31	30	65	1.54	-2.2	7	7,392	se.	36	sw.	25	13	10	4.248-2	1890	41.0	1891	
Topeka.....	7	....	....	....	....	42.6	-3.0	80	1	55	15	24	30	41	22	64	1.30	-0.2	6	....	s.	....	....	15	11	4	4.46-6	1890	35.6	1888	
Omaha.....	1,123	23	28.87	30.11	-.03	36.8	-2.2	72	1	56	10	30	27	35	22	64	0.43	-0.8	5	5,704	nw.	30	sw.	30	16	9	5.3943-8	1878	26.4	1880	
Valentine.....	2,613	9	27.26	30.09	-.02	33.8	-4.6	73	1	47	1	30	20	52	18	62	0.54	+ 0.2	7	7,595	w.	48	nw.	21	14	6	5.340-6	1888	29.9	1886	
Sioux City.....	1,165	....	28.78	30.07	....	33.9	....	73	1	45	1	40	23	44	20	67	0.75	....	5	8,023	nw.	42	s.	25	13	11	6.44-4	....	....	....	
Pierre.....	1,470	....	28.43	30.06	....	32.8	....	73	1	43	1	40	22	42	21	72	0.40	....	6	6,128	nw.	35	nw.	16	7	14	5.54	....	....	....	
Huron.....	1,310	13	28.59	30.06	-.05	29.3	-2.1	77	1	43	1	30	26	50	17	70	0.72	+ 0.2	6	9,390	nw.	40	se.	25	11	13	5.334-6	1890	24.2	1891	
Yankton.....	1,232	21	28.69	30.06	-.05	34.3	-1.4	75	1	50	1	30	24	44	19	63	0.57	....	5	7,217	nw.	42	s.	10	14	6	4.739-2	1890	23.5	1880	
<i>Northern Slope.</i>						31.8	-2.7	75	1	55	1	30	24	44	19	63	0.58	+ 0.1	5	7,217	nw.	42	sw.	10	10	5	4.44-4	1890	23.5	1880	
Havre.....	2,477	14	27.34	30.06	-.03	25.2	-5.6	64	5	34	1	16	20	36	16	70	0.80	0.1	9	7,682	sw.	36	w.	16	17	6	3.9	....	....	....	
Miles City.....	2,374	16	29.46	30.07	....	27.6	-3.7	67	5	39	1	14	30	19	20	76	0.50	-0.1	10	3,393	nw.	26	w.	13	10	4	6.638-9	1885	20.4	1880	
Helena.....	4,118	14	27.59	30.13	-.01	31.0	-1.6	63	5	35	1	12	30	23	20	77	1.44	-0.9	11	5,229	sw.	40	sw.	12	10	5	6.039-1	1885	19.3	1880	
Rapid City.....	3,280	8	26.59	30.07	-.07	33.6	-2.2	65	5	44	1	6	30	23	28	61	0.35	0.0	7	6,955	w.	40	n.	16	8	9	6.442-1	1890	31.0	1888	
Cheyenne.....	6,105	23	29.90	30.14	-.01	34.8	-0.6	62	1	46	1	30	24	32	20	65	0.29	0.0	5	8,516	nw.	50	ne.	20	14	12	4.393-9	1873	23.1	1880	
Lander.....	5,377	....	24.61	30.17	....	29.6	....	63	5	45	1	30	23	43	16	64	0.57	....	4	3,418	w.	40	n.	16	10	3	3.5	....	....	....	
Kearney.....	2,206	....	27.71	30.11	....	36.8	....	77	1	50	1	40	24	43	21	63	0.04	....	2	9,637	nw.	48	n.	17	16	11	3.5	....	....	....	
North Platte.....	2,841	20	27.07	30.14	-.02	35.0	-2.3	74	1	50	1	23	20	46	18	61	0.11	-0.3	3	6,373	nw.	42	sw.	21	10	18	2.44-4	39-7	1878	24.0	1880
<i>Middle Slope.</i>						38.7	-1.8	75	1	55	1	30	24	44	19	63	0.58	-0.2	5	7,217	nw.	42	sw.	10	10	5	4.44-4	1890	30.9	1877	
Colorado Springs.....	6,068	13	23.99	30.13	....	36.0	-1.9	67	1	49	2	23	23	40	14	47	0.14	-0.3	4	8,026	n.	65	nw.	21	19	6	5.340-4	1890	30.9	1877	
Denver.....	5,287	22	24.74	30.14	-.04	39.0	-1.0	71	1	52	8	23	26	41	15	43	0.55	-0.1	6	5,790	s.	37	sw.	28	13	9	4.414-2	1890	22.0	1880	
Pikes Peak.....	17	17-62	....	....	....	10.4	....	28	9	15	14	22	6	22	2	71	1.56	....	15	18,852	sw.	104	n.	30	9	7	5.5718-3	1887	0.4	1880	
Pueblo.....	4,734	6	25.25	30.12	....	39.4	....	72	1	55	9	12	23	48	12	69	0.06	....	1	5,666	w.	43	n.	17	16	10	4.3642-3	1890	33.0	1889	
Concordia.....	1,410	9	28.57	30.12	-.02	39.4	-2.3	75	5	51	11	30	28	42	26	69	1.01	-0.4	3	5,478	s.	34	n.	6	20	8	2.644-6	1890	36.6	1886	
Dodge City.....	2,523	20	27.41	30.12	-.01	40.4	-1.9	80	1	53	11	23	27	44	20	70	0.54	-0.1	4	8,108	se.	34	se.	25	20	5	5.3745-2	1885	26.2	1880	
Wichita.....	1,366	6	28.62	30.12	....	42.4	....	82	1	51	15	23	31	41	27	64	0.91	....	6	6,701	s.	36	n.	12	10	10	4.3745-9	1890	39.4	1889	
Oklahoma City.....	1,239	....	28.79	30.14	....	45.4	....	83	1	57	18	24	34	41	32	69	1.26	....	6	6,798	n.	44	n.	30	21	2	3.2	....	....	....	
<i>Southern Plateau.</i>						37.9	-0.7	73	1	55	1	30	24	44	17	63	0.95	0.1	5	7,217	nw.	42	sw.	11	17	9	3.33-3	....	....	....	
El Paso.....	3,796	16	26.25	30.15	....	51.2	-0.9	80	2	65	25	14	37	39	19	34	0.02	-0.5	1	6,612	nw.	45	n.	25	25	5	0.16-3	1878	46.3	1880	
Santa Fe.....	7,051	20	23.27	30.14	+.01	38.4	-0.3	59	1	48	19	23	28	37	27	32	0.29	-0.6	3	4,556	nw.	29	n.	30	24	4	2.642-7	1873	26.6	1880	
Tucson.....	2,432	10	27.54	30.09	....	54.0	-3.0	84	1	70	29	21	38	44	30	49	0.43	-0.1	2	5,802	nw.	42	sw.	18	27	9	3.48-6	1892	53.6	1881	
Yuma.....	141	19	29.88	30.03	+.01	60.0	-2.7	86	8	75	32	19	45	38	37	52	0.19	-0.2	1	4,134	se.	36	n.	11	23	6	1.6565-2	1890	50.7	1880	
Keeler.....</td																															